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A Byzantine Encyclopaedia of Horse Medicine

*The Sources, Compilation, and
Transmission of the Hippiatrica*

ANNE McCABE



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OXFORD STUDIES IN BYZANTIUM

Oxford Studies in Byzantium consists of scholarly monographs and editions on the history, literature, thought, and material culture of the Byzantine world.

A Byzantine Encyclopaedia of Horse Medicine

*The Sources, Compilation, and Transmission
of the Hippitrica*

ANNE McCABE

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Preface

THIS book is based on a thesis entitled 'The Transmission of the Greek *Hippiatrica*', submitted to the Faculty of Literae Humaniores, University of Oxford, in 2002. The original text has been revised and to some degree expanded; at the suggestion of the Press I have also given English translations of quotations from Latin and Greek texts. These are intended simply as an aid to the reader; I have no doubt that there are many points on which they could be improved. Translations of Columella's *De re rustica* are, in general, adapted from that of H. B. Ash, E. S. Forster, and E. Heffner in the Loeb Classical Library, and translations of Varro's *Res rusticae* from that of W. D. Hooper and H. B. Ash in the same series.

I should like to express my warmest thanks to the editorial board of Oxford Studies in Byzantium for including my work in the new series, and especially to my supervisor, Prof. Cyril Mango, for his kind advice and his patience. The text has benefited greatly from suggestions by my other teacher, Prof. Ihor Ševčenko, for improving its 'user-friendliness', and from Mr Nigel Wilson's comments on earlier versions and on matters of palaeography. Very many thanks also to Dr Sebastian Brock for his help with the Syriac translation of Anatolius, and to Dr Robert Hoyland for his collaboration on the Arabic tradition of Theonnestus; Dr Fritz Zimmerman also examined the Arabic translation. Dr Anne-Marie Doyen-Higuet and Prof. Klaus-Dietrich Fischer generously provided much useful material. Mrs Hülya Baraz, Mr Michael Carey, Dr Krijnie Ciggaar, Dr Vera von Falkenhausen, Dr Jeffrey-Michael Featherstone, Prof. George Huxley, Dr Elaine Matthews, Dr Emilie Savage-Smith, Dr Nancy Ševčenko, Dr Natalie Tchernetska, and Prof. Agamemnon Tselikas kindly offered help and all sorts of items of hippiatric interest. I am grateful to the manuscript departments of the Biblioteca Apostolica Vaticana, the Biblioteca dell' Accademia Nazionale dei Lincei e Corsiniana in Rome, the Biblioteca Mediceo-Laurenziana in Florence, the Biblioteca Nazionale of Naples, the Bibliothèque nationale de France, the British Library, the Köprülü Kütüphanesi in Istanbul, and the Universiteitsbibliotheek in Leiden, for permitting me to see their copies of the *Hippiatrica*; and in particular to Dr Renate Schipke of the Staatsbibliothek zu Berlin for allowing me to examine the beautiful imperial manuscript Phillipps 1538; Dr Helen Carron and the late Prof. Frank Stubbings of the Library of Emmanuel College, Cambridge; Bay Muammer Ülker of the Süleymaniye Kütüphanesi in Istanbul, Dr Clare Breay and Dr Scot McKendrick of the British Library, M. Christian Förstel of the Bibliothèque nationale and Dr Bruce Barker-Benfield of the Bodleian

Library for their answers to questions about manuscripts. Finally, I should like to thank my copy-editor, Heather Watson, for her very helpful observations. I ought in fairness to dedicate this book to my horse Calypso, who is in Patmos, with apologies for spending more time with the *Hippiatrica* than with her in the last few years. But since she (very sensibly) has more interest in juicy figs than in dry tomes, I dedicate it instead, with love, to my parents.

A.E.M.

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Abbreviations

1. THE HIPPIATRICA

CHG I–II *Corpus hippiatricorum Graecorum*, ed. E. Oder and C. Hoppe vol. I: (Leipzig, 1924), *Hippiatrica Berolinensia*; and vol. II: (1927), *Hippiatrica Parisina*, *Hippiatrica Cantabrigiensia*, *Additamenta Londinensia*, *Excerpta Lugdunensia* (repr. Stuttgart, 1971). The text is referred to by the capital letter denoting the recension in question, e.g. M, B, C; and by the number assigned to the passage in the Teubner edition. Since the readings of M are for the most part printed as additions to the text of B, or in the apparatus criticus in vol. I, it is usually necessary to indicate for M the equivalent text in B. I have tried, as far as possible, to give the text of M.

2. PERIODICALS, SERIES, AND WORKS OF REFERENCE

AB	<i>Analecta Bollandiana</i>	GAS	F. Sezgin, <i>Geschichte des arabischen Schrifttums</i> (Leiden, 1967–)
AM	<i>Athenische Mitteilungen</i>		
ANRW	<i>Aufstieg und Niedergang der Römischen Welt</i>	GRBS	<i>Greek, Roman, and Byzantine Studies</i>
BCH	<i>Bulletin de correspondance hellénique</i>	IG	<i>Inscriptiones graecae</i>
BZ	<i>Byzantinische Zeitschrift</i>	IK	<i>Inschriften griechischer Städte aus Kleinasien</i> (Bonn, 1972–)
CCAG	<i>Catalogus codicum astrologorum graecorum</i> (Brussels, 1898–1953)	JHS	<i>Journal of Hellenic Studies</i>
		JÖB	<i>Jahrbuch der Österreichischen Byzantinistik</i>
CIG	<i>Corpus inscriptionum graecarum</i> (Berlin, 1828–77)	JRS	<i>Journal of Roman Studies</i>
CIL	<i>Corpus inscriptionum latinarum</i> (Berlin, 1862–1989)	LBG	E. Trapp et al. (eds.), <i>Lexikon zur byzantinischen Gräzität besonders des 9.–12. Jahrhunderts</i> (Vienna, 1994–)
CMG	<i>Corpus medicorum graecorum</i>		
CQ	<i>The Classical Quarterly</i>	LGNP	P. M. Fraser, E. Matthews, et al. (eds.), <i>A Lexicon of Greek Personal Names</i> (Oxford, 1997–)
CRAI	<i>Comptes-rendus des séances de l'Académie des inscriptions et belles-lettres</i>	LSJ	H. J. Liddell and R. Scott (eds.), <i>A Greek–English Lexicon</i> , rev.
DOP	<i>Dumbarton Oaks Papers</i>		

	H. Stuart Jones and R. McKenzie (Oxford, 1968)		<i>Prosopography of the Later Roman Empire</i> (Cambridge, 1971–80)
Mansi	G. D. Mansi (ed.), <i>Sacrorum conciliorum nova et amplis- sima collectio</i> (Paris and Leip- zig, 1901–27)	P. Oxy.	<i>The Oxyrhynchus Papyri</i>
		RE	<i>Paulys Real-Encyclopädie der classischen Altertumswis- senschaft</i>
Notices et extraits	<i>Notices et extraits des manu- scrits de la Bibliothèque impé- riale et autres bibliothèques</i>	REB	<i>Revue des études byzan- tines</i>
		REG	<i>Revue des études grecques</i>
PG	J.-P. Migne, <i>Patrologiae cursus completus, Series graeca</i> (Paris, 1857–66)	Rh. Mus.	<i>Rheinisches Museum für Philologie</i>
PGM	<i>Papyri Graecae Magicae. Die griechischen Zauberpapyri</i> ² , ed. K. Preisendanz, rev. A. Henrichs (Stuttgart, 1974)	Sophocles	E. A. Sophocles, <i>Greek Lexi- con of the Roman and Byzan- tine Periods</i> (Cambridge, Mass., 1914)
PL	J.-P. Migne, <i>Patrologiae cursus completus, Series latina</i> (Paris, 1844–64)	ZPE	<i>Zeitschrift für Papyrologie und Epigraphik</i>
		ZSS	<i>Zeitschrift der Savigny- Stiftung</i>
PLRE	A. H. M. Jones, J. R. Martindale, J. Morris, <i>The</i>		

Introduction

Horses for ye, and brown Greek manuscripts...

Robert Browning, 'The Bishop Orders
His Tomb at Saint Praxed's Church'

THE text known as the *Hippiatrica*¹ is the principal monument which remains of technical literature in Greek devoted to the care and healing of the horse. Compiled probably in the fifth or sixth century AD by an unknown editor out of excerpts from seven Late Antique veterinary manuals, the *Hippiatrica* is a vast work of reference organized ailment-by-ailment and author-by-author, ending with lists of recipes for drugs. The text is preserved in five recensions, in twenty-two manuscripts (containing twenty-five copies) which range in date from the tenth century to the sixteenth. Although the origins of the *Hippiatrica* may be traced back to an earlier age, and its influence detected later, in other languages and literatures, this study will focus on the sources and structure of the compilation, and on its evolution in the Byzantine period, in Greek.

The *Hippiatrica* is a precious source of information about the language, methods, and practitioners of a specialized branch of the veterinary art, a discipline whose flowering (if one may call it that) in Late Antiquity corresponded to the value attached to its patients, and to the importance of their roles in Roman life. Symptoms and maladies described in the text are, for the most part, those that continue to plague horses and their owners today: lameness, cough, colic, laminitis, glanders, parasites—but there are also some, such as affliction by the evil eye, which no longer figure in manuals of horse care (though they may still be cause for concern). The text also sheds light on other aspects of horse care such as breeding, breaking, feeding, grooming, and stable management. No other source offers such vivid glimpses into the daily life of the stables: we learn that horses were massaged

¹ The title *Hippiatrica* assigned to the compilation by its modern editors and translators has medieval precedents: the description *ἵππιατρικὸν βιβλίον* appears in the *Souda*, s.v. *Ἄψυρτος*, *τρίλλη*, and *Χείρων*, as well as in a 12th-c. manuscript of the compilation, Cambridge, Emmanuel College 251. *Corpus hippiatricorum Graecorum*, the title of the Teubner edition by Eugen Oder and Karl Hoppe (Leipzig, 1924–7), refers not to the Greek compilation itself, but to the 'corpus' of different *Hippiatrica*, i.e. recensions of the compilation, presented in that edition.

with wine and oil; that their stalls were strewn with bay and myrtle leaves or fumigated with myrrh; that they were brought down to the sea to swim. Prescriptions for medicines composed of exotic and expensive spices, sauna sessions in Roman baths, magical amulets, and chicken soup attest to the care lavished on valuable animals. Although the texts are, for the most part, written in the detached tone befitting medical manuals, there are also, in the *Hippiatrica*, expressions of affection for horses, and of distress at their suffering.

The history of this rich and complex text has been neglected in the last sixty years, whether because of a distaste, on the part of scholars, for the subject-matter, or as a consequence of the confusing state in which the text appears in its printed editions. Yet a number of paradoxes inherent in the *Hippiatrica* invite investigation: it is a technical reference-book which nevertheless contains elements of belletristic style, a secular text which provides evidence of popular beliefs, a text viewed in the Middle Ages and the Renaissance both as an object of antiquarian interest and as a source of practical advice. The diversity of material forms in which the text is presented reflects this varied character: a text devoted to ‘complexities of mire and blood’ is copied in manuscripts of extraordinary beauty, as well as plain copies destined for handy reference in the stables. Early translations of the sources of the *Hippiatrica* between Latin and Greek and from Greek into Syriac indicate that there was demand for the texts in different areas of the Roman empire. Medieval versions of two of the source-texts into Arabic and Latin, minor products of two movements of translation that constitute milestones in the history of science, show that the influence of Greek veterinary medicine extended past the borders of Byzantium, from Palermo to Baghdad. An Italian translation provides further evidence of the reception of Greek veterinary texts in the West. These translations, which we shall touch upon only briefly, are interesting in their own right, but are additionally useful for the light that they may shed on the history of the Greek texts.

The *Hippiatrica* is a compilation, and the information it contains represents different periods, different places, and different points of view. In order to evaluate this information, it is necessary to have a clear understanding of the medium in which it is conveyed. At the most superficial level, the medium is that of manuscripts, and the recensions of the text that they contain; at the second, it is the compilation; and at a deeper level, it is the source-treatises that make up the compilation, and their own sources in turn. The history of these various strata of the text follows a well-known pattern of composition, codification, revision, and translation, so that the hippiatric corpus is also a good case-study for the transmission of technical material in the Byzantine period.

The history of the text may be divided into three chronological phases: (1) the period during which the seven source-treatises were composed; (2) the moment when these treatises were excerpted and the excerpts assembled to form the first compilation; and (3) the subsequent period during which the hippiatric encyclopaedia was used, copied, and repeatedly reworked. These divisions are not equal in duration: while the first comprises several centuries of Late Antiquity, the second, its terminus, is probably to be imagined as no more than perhaps a few weeks or months; and the third spans the remainder of the medieval period. Once assembled, the *Hippiatrica* seems to have become a standard reference-book that eclipsed other literature in the field. Little new veterinary material appears to have been added to the encyclopaedia after it was compiled: the same Late Antique treatises remained in use, being adapted without being superseded. Changes to the content and organization of successive recensions of the compilation reflect the evolving tastes of medieval editors; and it is worthy of note that the literary style and character of the source-treatises, as much as the information which they convey, influenced their fate in transmission. For this reason, rather than proceeding 'stratigraphically' from the manuscripts to the compilation to its sources, we shall attempt to trace the history of the text chronologically, from Late Antiquity to the end of the Byzantine period.

HORSES, HORSE-DOCTORS, AND HORSE-MEDICINE

Before we turn to the text itself, a few words about horses, horse-doctors, and veterinary literature in antiquity may help to introduce the subject.² The specialized genre of hippiatric literature, which makes its first appearance in cuneiform tablets of the fourteenth century BC found at Ras Shamra-Ugarit in Syria,³ does not appear to have been much cultivated in Greek before the Roman period. Simon of Athens, the first known Greek writer on horses (fifth century BC), is said by Xenophon to have written on horsemanship

² See K.-D. Fischer, 'Ancient Veterinary Medicine: A Survey of Greek and Latin Sources and Some Recent Scholarship', *Medizinhistorisches Journal*, 23 (1988), 191–209; J. N. Adams, *Pelagius and Latin Veterinary Terminology in the Roman Empire* (Leiden, 1995), 66–148.

³ See D. Pardee, *Ras-Shamra Ugarit, II: Les textes hippiatricques* (Paris, 1985); C. Cohen and D. Sivan, *The Ugaritic Hippiatric Texts: A Critical Edition* (New Haven, 1983). Cures for horses are also included in Akkadian medical texts (*ibid.* appendix III). The well-known Hittite text from Boğazköy by Kikkuli of Mitanni (c. 1350 BC) is on the care and training of horses rather than on their medical treatment: see A. Kammenhuber, *Hippologia Hethitica* (Wiesbaden, 1961).

(περὶ ἵππικῆς);⁴ the *Souda*'s attribution of a medical manual to him is probably an error.⁵ A fragment attributed to Simon, describing the characteristics desirable in a horse, is preserved in the *Hippiatrica*.⁶ Xenophon's own treatise *On the Art of Horsemanship* (Περὶ ἵππικῆς) is not concerned with diseases or their treatment, though he refers in passing to three conditions: surfeit of blood, exhaustion, and laminitis.⁷ Aristotle gives a detailed account of the breeding and lifespan of horses, donkeys, and mules, and names several diseases with their symptoms, but describes only one treatment, namely bloodletting. Aristotle's allusion to the opinion of 'the experienced' (ἐμπειροὶ) that horses suffer from the same diseases as humans suggests that there were people specialized in horse care, but does not make it clear that they were professional horse-doctors.⁸ The *Souda* ascribes a 'medical book on the treatment of donkeys' (βιβλίον ἱατρικὸν εἰς ὄνων θεραπείαν) to

⁴ Xen. *De re equestri* I.1, where it is also said that Simon set up a bronze horse, with his deeds worked in relief on its base, near the City Eleusinion in the Athenian Agora (high on the north slope of the Acropolis, where horsemen would pass by on the Panathenaic way). Xenophon also quotes Simon on a horse's performance under compulsion, *De re equi*. XI.6. According to Pliny, NH XXXIV. 76, Simon 'primus de equitatu scripsit'. Simon is mentioned three times in the *Hippiatrica*, twice simply name-dropped, along with Xenophon, as an authority (by Hierocles, B1.11, *CHG* I p. 4; by Apsyrus B115.1, *CHG* I p. 372); and once in a retelling of the story that he criticized a painting by Micon (Hierocles B59.6, *CHG* I p. 249); Aelian, NA IV.50 says that the story was told both of Micon and of Apelles. The tale also appears in Pollux II. 69. See the two entries in *RE* II.5: Simon (7), 173–5, and Simon (16), 180.

⁵ The *Souda* has (Adler, T 987) Τρίλλη τί σημαίνει; γέγραπται γὰρ ἐν τῷ τοῦ Ἀθηναίου Σίμωνος Ἱπποιατρικῷ περὶ γνωρισμάτων φλεβῶν, ὅτι καὶ ἀπο τῆς τρίλλης εἰσὶ φλέβες δύο. 'Trille: what does it mean? For it is written in the work on horse-medicine by Simon the Athenian, on the subject of recognizing veins, that there are two veins leading from the trille.' The passage on veins is from Vegetius, no doubt mistakenly attributed to Simon because of its placement in the *Hippiatrica* after a lemma mentioning Simon, cf. C93, *CHG* II p. 228. This is one of several *Souda* entries that seem to be drawn from the 10th-c. C recension of the *Hippiatrica*, as we shall see below. The 10th-c. bibliographer al-Nadīm attributes a book on veterinary surgery to a certain Simos; *The Fihrist of Al-Nadīm*, tr. B. Dodge, vol. II (New York, 1970), 738. Nadīm, too, may have known Simon's text from the *Hippiatrica*. Simon's work is also called an ἵπποσκοπικὸν βιβλίον θαυμάσιον in the *Souda* s.v. Ἀψυρτος (Adler, A 4739) and Κίμων (Adler, K 1621) (*sic*—confused with the statesman who had his horses buried near his own grave, cf. Herodotus 6.103).

⁶ C93, *CHG* II pp. 228–31; repr. K. Widdra, *Xenophontis De re equestri*, pp. 41–4. The only other fragments of the treatise are in the *Onomasticon* of Pollux, I.188 ff. The fragment in the *Hippiatrica* is entitled περὶ ἰδέας ἵππικῆς, 'On the ideal equine form'. All the fragments are collected in F. Ruehl (ed.), *Xenophontis Scripta minora*, I (Leipzig, 1912), 193–7.

⁷ The owner should keep an eye on the horse so that ὅταν μὴ ἔκκομιζῃ τὸν σίτον ὁ ἵππος, φανερόν γίγνεται. τούτου δ' ἂν τις αἰσθανόμενος γιγνώσκει, ὅτι ἢ τὸ σῶμα ὑπεραιμοῦν δέχεται θεραπείας, ἢ κόπου ἐνόντος δέχεται ἀναπαύσεως, ἢ κριθίας ἢ ἄλλῃ τις ἀρρώστια ὑποδύεται. ἔστι δὲ ὥσπερ ἀνθρώπῳ οὕτω καὶ ἵππῳ ἀρχόμενα πάντα εὐιατότερα ἢ ἐπειδὰν ἐνσκιρωθῇ τε καὶ ἐξαμαρτηθῇ τὰ νοσήματα. *De re equi*. IV.2, whence Pollux I.209.

⁸ HA VI 575b–577b; VII (VIII) 604b.

the legendary Persian magus Astrampsychus.⁹ Many texts of an occult nature and of diverse date, including spells and works on divination and dream interpretation are attributed to Astrampsychus,¹⁰ but the veterinary work is not known. A certain Cleodamas, from the city of Achnai in Thessaly, is said by Stephanus of Byzantium to have written on riding and horse-breaking (*περὶ ἵππικῆς καὶ πωλοδαμαστικῆς*); but there is no indication that veterinary material was included in his work.¹¹

Veterinary treatments for horses and other domestic animals appear to have figured in the lost work on agriculture by Mago of Carthage, probably composed in the third or second century bc.¹² Little is known about its authorship or date, but it is clear that Mago's work was very influential, so it is worth digressing for a moment to outline what is known about the history of the text. Cicero refers to Mago as the proverbial source of information about farming;¹³ for Columella, Mago is 'the father of agriculture' (*rusticationis parens*).¹⁴ Pliny informs us that after the destruction of Carthage in 146 bc, Mago's work, in twenty-eight books, was translated from Punic into Latin by order of the Roman Senate, despite the fact that the work by Cato on the same subject was already available. The undertaking is said to have been entrusted to men expert in the Punic language, among whom one D. Silanus was prominent.¹⁵ A Greek version in twenty books, which also included material from other Greek writers,¹⁶ was made, apparently again from Punic rather than from the Latin, by Cassius Dionysius of Utica,¹⁷ who

⁹ *Souda*, Adler, A 4251. One cannot help wondering whether his name was confused with that of the veterinary author Apsyrus. Astrampsychus is mentioned by Diogenes Laertius, Proem. 2.

¹⁰ PGM VIII. 1–26; *Sortes Astrampsychi*, vol. I, ed. G. M. Browne (Leipzig, 1983), vol. II, ed. R. Stewart (Leipzig and Munich, 2001). See also E. Riess, 'Astrampsychos', in *RE II* (1896), 1796–7; C. Harrauer in *Der Neue Pauly*, 2 (Stuttgart, 1997), 121–2.

¹¹ Stephanus, s.v. Ἀχναί.

¹² Fragments of his work have been collected most recently by F. Speranza, *Scriptorum romanorum de re rustica reliquiae* (Messina, 1974), 75–119; the date of the work is discussed pp. 77–9, with the suggestion that Mago be identified with Hannibal's brother Mago, who fought in Italy and Gaul and died in 203 bc. J. Heurgon, 'L'Agronome carthaginois Magon et ses traducteurs en latin et en grec', *CRAI* (1976), 442, favours a more general dating of Mago to the time of the Punic Wars, i.e. 3rd to mid-2nd c. bc. See also K. Ruffing, 'Mago', in *Der Neue Pauly*, 7 (Stuttgart and Weimar, 1999), 702–3; R. Reitzenstein, *De scriptorum rei rusticae... libris deperditis* (Berlin, 1884), 44 ff. The *Καρχηδόνιος σοφὸς Μάγων* mentioned by Stephanus, s.v. *Καρχηδών*, probably refers to this author.

¹³ *De oratore* 1.249.

¹⁴ Columella I.1.13.

¹⁵ *NH* XVIII.5.

¹⁶ Varro, *Res rustica* I.10; the list of sources given by Varro, I.8–10 is repeated by Columella I.1. 7–13; and in Pliny, *NH* I (sources of bk. VIII).

¹⁷ Stephanus, s.v. Ἰτύκη attributes *ρίζοτομικά* 'works on root-cutting', i.e. herbal medicine, to the same author. See M. Wellmann, Cassius (42) Dionysius, *RE III* (1899), col. 1722.

dedicated the work to the praetor Sextilius (c.88 BC). The title of this work seems to have been *Γεωργικά* (though that may simply be a descriptive term).¹⁸ Cassius' work in turn was condensed into six books by Diophanes of Bithynia for the Galatian king Deiotarus (in the middle of the first century BC), and into two by Asinius Pollio of Tralles (first century BC).¹⁹ Through these translations and adaptations, Mago's work was used in the agricultural compilations of Varro (first century BC) and Celsus (first century AD); Celsus' text, now lost, was used by Columella. Veterinary material copied nearly word-for-word from Columella is also included in book 14 of the agricultural manual of Palladius, compiled probably in the mid-fifth century AD.²⁰ Diophanes was a source for the Greek compilation of Anatolius of Berytus, and, through Anatolius, was incorporated into the *περὶ γεωργίας ἐκλογαί* of Cassianus Bassus, and the medieval *Geoponica*. Descriptions of the points of the horse, advice on breeding, and remedies for horses, cows, and other domestic animals common to Varro, Columella, Palladius, and Anatolius/Cassianus Bassus/the *Geoponica* have been attributed to Mago, or rather to Cassius Dionysius–Diophanes.²¹ Mago's influence may also be detected in the *Hippiatrica*, as we shall see. Antique veterinary literature thus had close links to agricultural literature as well as to human medicine. The role of translation in the transmission of this family of texts is also worthy of note, and accounts for the kinship between Greek and Latin agricultural compilations.

The earliest occurrence of the Greek word for horse-doctor, *ἵππιατρός*,²² is in a long inscription of around 130 BC, which grants the conventional privileges of *proxenia* to one Metrodorus son of Andromenes, a native of Pelinna in Thessaly who, 'being a hippiatros' (*ὑπάρχων ἵππιατρός*), treated the horses of Lamia without demanding payment from their owners.²³ The Greek word is quoted by Varro:

¹⁸ The title is named in a scholion to Lucian and by Athenaeus; see Speranza, fragments 42, p. 105, and 63, p. 118.

¹⁹ Varro, *RR* I.10; repeated by Columella I.1.7–13; *Souda*, s.v. *Πωλίων*. See J. Heurgon, 'L'Agronome carthaginois Magon', 441–56; J. P. Mahaffy, 'The Work of Mago on Agriculture', *Hermathena*, 7 (1890), 30–1.

²⁰ Ed. R. H. Rodgers, *Palladii Rutilii Tauri Aemiliani... Opus agriculturae, De veterinaria medicina, De insitione* (Leipzig, 1975).

²¹ E. Oder, *Anecdota Cantabrigiensia* (Berlin, 1896), 14 ff.; O. Hempel, *De Varronis rerum rusticarum auctoribus quaestiones selectae*, diss. (Leipzig, 1908), 63 ff.

²² The accent of the word seems to have been uncertain in antiquity. According to Herodian, τὰ δὲ παρασύνθετα καὶ φυλάττει καὶ ἀναβιβάζει... τὸ δὲ ἱατρός φυλῖατρος ἀναβιβάζει καὶ ἐν τῷ ἄρχιατρός καὶ ἵππιατρός φυλάττει, ed. Lentz, I, p. 229. But in inscriptions and in manuscripts alike the word is presented with a great deal of variation in spelling and accent: ἵπποιατρός, ἱππίατρος, etc. The spelling is not normalized in the Teubner edition of the *Hippiatrica*.

²³ *IG* IX. 2. 69 (now in the Epigraphical Museum in Athens).

De medicina vel plurima sunt in equis et signa morborum et genera curationum, quae pastorem scripta habere oportet. Itaque ab hoc in Graecia potissimum medici pecorum ἵππιάτροι appellati.²⁴

In the matter of treatment there are, in the case of horses, a great many symptoms of disease and methods of treatment, and the head groom should have these written out. It is for this reason that in Greece those who treat livestock are called by the special name, *hippiatroi*, ‘horse-doctors’.

Celsus (first century AD), in the introduction to his medical encyclopaedia, refers to *ii qui pecoribus ac iumentis medentur*, ‘those who heal cattle and horses’, without using a more specific term.²⁵ In Graeco-Latin glossaries, ἵππιατρός is given as the equivalent of *veterinarius* and *mulomedicus*.²⁶

It is from Late Antiquity that we have the greatest quantity of documentary evidence about *hippiatroi*.²⁷ Gravestones of pagan and Christian horse-doctors from all over the Roman empire are evidence of varying levels of literacy and prosperity.²⁸ Private documents, such as letters and receipts for services, provide information about horse-doctors,²⁹ and also attest to concern for the welfare of horses.³⁰ Moreover, in this period, the practice of veterinary medicine was both regulated and encouraged by the state. In 301 Diocletian’s Price-Edict set the fees to be paid to a horse-doctor for basic treatments including purging and trimming the hooves.³¹ An edict to the Praetorian

²⁴ RR II.7.16. ²⁵ *De medicina*, proem. 65.

²⁶ *Glossae Latinograecae et Graecolatinae*, ed. G. Goetz and G. Gunderman = *Corpus Glossariorum Latinorum*, II (Leipzig, 1888), pp. 207, 332. On *veterinarius* and the later term *mulomedicus* (which appears from the 4th c. on), see J. N. Adams, ‘The Origin and Meaning of Lat. *veterinus*, *veterinarius*’, *Indogermanische Forschungen*, 97 (1992), 70–95; idem, *Pelagonius and Latin Veterinary Terminology in the Roman Empire*, 571.

²⁷ O. Nanetti, ‘ΙΠΠΙΑΤΡΟΙ’, *Aegyptus*, 22 (1942), 49–54; Adams, *Pelagonius*, 53 ff.

²⁸ References to gravestones from Edessa, Dion, Nicopolis ad Istrum, Phrygia, Crete, Thessalian Thebes, and Bithynia in D. Feissel, *Recueil des inscriptions chrétiennes de Macédoine du IIIe au VIe siècle* (Paris, 1983), no. 30, pp. 46–7; to these add one found at Delos: K. S. Pittakis, ‘Αρχ. Έφφημ. (1841), no. 602, p. 432; a Christian gravestone from Corinth: P. Clément, ‘Korinthas, veterinary’, in S. M. Burstein and L. A. Olin (eds.), *Panhellenica: Essays in Ancient History and Historiography in Honor of Truesdell Sparhawk Brown* (Los Angeles, 1980), 187–9; a graffito at Palermo: A. Ferrua, *Note e giunte alle iscrizioni cristiane antiche della Sicilia* (Vatican, 1989), no. 207, p. 55.

²⁹ Nanetti, ‘ΙΠΠΙΑΤΡΟΙ’, 49–54 lists *P. Oxy.* I. 92 (337); *P. Ross.-Georg.* (ed. G. Zereteli (Tiflis, 1925–35)) V. 60. 4 (late 4th c.); *P. Lips.* (ed. L. Mitteis (Leipzig, 1922)), 101 (4th–5th c.), and *P. Oxy.* XVI. 1974 (538); to which T. Gagos adds *SB* (ed. F. Preisigke (Strassburg Berlin, and Leipzig, 1913–22)), XIV.12059 (3rd/4th c.), *CPR* (ed. C. Wessely (Vienna, 1895)), VII. 38 (4th c.), and *PSI* (Papyri greci e latini (Florence, 1912–)), VIII. 955 (6th c.) in his commentary on *P. Oxy.* LXI. 4132 (619).

³⁰ C. Gorteman, ‘Sollicitude et amour pour les animaux dans l’Égypte gréco-romaine’, *Chronique d’Égypte*, 63 (1957), 101–20.

³¹ 7.20–1: ἱππιατρῶν καθάρων [i.e. καθαμῶν?] καὶ ὀνυχισμοῦ; *mulomedico tonsurae et aptaturae pedum...depleturae et purgaturae capitis*. For interpretations of the latter services, see K.-D. Fischer, ‘Zu den tierärztlichen Verrichtungen in Edict. Diocl. 7,21’, *ZPE* 48 (1982), 171–4, and a different opinion in Adams, *Pelagonius*, 61.

Prefect Maximus, promulgated in 337 in the name of Constantine I, exempts veterinarians (*mulomedici*) along with architects, doctors, and a variety of other craftsmen from public duties so that they might perfect their art and transmit it to their sons.³² That veterinary knowledge was indeed passed from father to son is corroborated by a monument at Dion (of imperial date) commemorating one Aurelius Lykos *ἵπποιατρός* dedicated by his son Valerian, also called *ἵπποιατρός*.³³

It is logical that the state should have taken an interest in those who maintained the health of horses, for the horse was essential for the functioning of three great institutions of the Roman state, the army, the hippodrome, and the public post; veterinarians were attached to all three. There exists ample documentation of the cavalry corps, including the horse-doctors who were attached to regiments;³⁴ two authors in the *Hippiatrica*, Apsyrtus and Theomnestus, refer to their experience in the army. Horse-racing was a vast industry: hippodromes constructed across the empire in Late Antiquity provided the setting for public and imperial ceremonial; while both the setting and the races themselves were regarded as laden with cosmic symbolism.³⁵ The state subsidized stud-farms in areas with grazing land, and a decree of AD 371 in the Theodosian Code honours horses from the stables of Hermogenes in Pontus and those of Palmatius near Tyana, which were to be provided for from the stores of the imperial granaries even after they had finished their racing career.³⁶ During race-meetings at Oxyrhynchus in the fourth century, a veterinarian was given payment (in wine) equal to that of a charioteer.³⁷ The circus-factions also provided for the care of their horses: a papyrus receipt dated 552 records a purchase of ointment (*μαλάγμα*) on behalf of the Greens.³⁸ The ointment was presumably prepared by a

³² *Cod. Theod.* XIII.4.2.

³³ CIG 1953.

³⁴ See e.g. R. W. Davies, 'The Medici of the Roman Armed Forces', *Epigraphische Studien*, 8 (1969), 83–99; 'The Supply of Animals to the Roman Army and the Remount System', *Latomus*, 28 (1969), 429–59; R. E. Walker, 'Some Notes on Cavalry-Horses in the Roman Army', in J. M. C. Toynbee, *Animals in Roman Life and Art* (London, 1973), 335–43; also, in general, K. R. Dixon and P. Southern, *The Roman Cavalry from the 1st to the 3rd c. A.D.* (London, 1992).

³⁵ C. Mango, 'Chariot Races in the Roman and Byzantine Periods', D. Alexander (ed.), *Furusiyya*, I (Riyadh, 1996), 36–41; A. Cameron, *Circus Factions* (Oxford, 1976); G. Dagron, *Naissance d'une capitale: Constantinople et ses institutions de 330 à 451* (Paris, 1984), 330–47; J. H. Humphrey, *Roman Circuses* (London, 1986); J. Gascou, 'Les Institutions de l'hippodrome en Égypte byzantine', *Bulletin de l'Institut français d'archéologie orientale*, 76 (1976), 185–212; *Cod. Theod.* XV.3.5; XV.10.

³⁶ *Cod. Theod.* XV.10.1 (Valentinian, Valens, and Gratian); cf. D. Berges and J. Nollé, *Tyana: Archäologisch-historische Untersuchungen zum südwestlichen Kappadokien*, IK 55; vol. II (Bonn, 2000), pp. 297–302 and 328–9.

³⁷ O. Ashm. Shelton 83, ed. J. C. Shelton, *Greek Ostraca in the Ashmolean Museum* (Florence, 1988), pp. 73–7. Repeated payment to the same *ἵππιατρός* named Thonios: *ibid.*, nos. 131, 144.

³⁸ *P. Oxy.* I. 145.

horse-doctor; there are numerous recipes for *malagmata* in the *Hippiatrica*.³⁹ A number of prescriptions in the *Hippiatrica* are specifically associated with the racecourse: *ποῦλβερ κουδριγάριον* ‘chariot-racing powder’, *ἄλειμμα κουδριγάριον* ‘chariot-racing ointment’, *κατασκευὴ τεθρίππου τοῦ λεγομένου κουδριγαρίου* ‘preparation of the four-horse chariot, called *quadrigarion*’, *σύγχρισμα ἄρματος, ὅπερ κουδριγάριον καλεῖται* ‘salve of the chariot, which is called *quadrigarion*’.⁴⁰ Finally, a decree of 370 in the Theodosian Code stipulates that the *mulomedici* who attended the animals of the public post were to be fed and clothed by the state.⁴¹

Additional insight is provided by the fourth-century astrologer Firmicius Maternus, who predicts that those who are born in the sign of the Scorpion with the Centaur ascendant are likely to become horse-doctors:

In Scorpii parte XII oritur Centaurus. Hoc oriente quicumque natus fuerit, aut auriga erit aut equorum nutritor et cultor, aut certe exercitator aut mulomedicus, aut certe equitarius.⁴²

In the twelfth degree of Scorpio rises the Centaur. Whoever was born with this in the ascendant will either become a charioteer or a breeder and keeper of horses, or else surely a trainer or a horse-doctor, or surely the inspector of a stud.

Doctors were a favourite butt of humour; horse-doctors, too, did not escape ridicule: in a joke based on Odysseus’ instructions to Diomedes in *Iliad* 10.481 an unscrupulous *ἵππιατρός* says to a doctor, *σύ γ’ ἄνδρας ἔναιρε, μελή- σουσιν δ’ ἔμοι ἵπποι*: ‘You take out the men, and I’ll take care of the horses.’⁴³

A brief account of veterinary literature is given in the introduction to the treatise of Vegetius (probably to be identified with the author of the *Epitoma rei militaris*, and thus dated to the late fourth or early fifth century AD).⁴⁴

³⁹ M822 ff. = B130.1–53, *CHG* I pp. 400–10.

⁴⁰ M982–3 = B130.98–9, *CHG* I p. 419; 130.173, *CHG* I pp. 432–3; M1003, *CHG* II p. 96.

⁴¹ *Cod. Theod.* VIII.5.31 (Valentinian, Valens, and Gratian). Cf. E. J. Holmberg, *Zur Geschichte des Cursus Publicus* (Uppsala, 1933). A grave stone found at Karakilis, the probable site of the Byzantine port of Pylae on the gulf of Nicomedia, an important stopping-place for people and livestock on the way to the capital, commemorates the wife of a horse-doctor. T. Corsten, *Die Inschriften von Apameia (Bithynien) und Pylai, IK 32* (Bonn, 1987), 137, no. 134; cf. D. Feissel, ‘Bulletin épigraphique’, *REG* 102 (1989), no. 937. On Pylae, see C. Mango, ‘The Empress Helena, Helenopolis, Pylae’, *TM* 12 (1994), 143–58.

⁴² *Mathesis* VIII.13.3; cf. also VIII.17.3.

⁴³ Eustathius 819.50–4, ed. van der Valk, III, p. 116; the joke is attributed to Stratonikos in the *Gnomologium Vaticanum*, 524. Jokes about doctors in the *Philogelos*, ed. R. D. Dawe (Munich and Leipzig, 2000).

⁴⁴ V. Ortoleva sees an allusion, in the *Epitoma rei militaris*, to repairs of the walls of Constantinople after the earthquake of 447, and dates that text to the mid-5th c., ‘Per una nuova edizione critica dei *Digesta artis mulomedicinalis* di Vegezio: alcune note metodologiche’, in M.-T. Cam (ed.), *La médecine vétérinaire antique* (Proceedings of the colloquium on ancient

Mulomedicinae apud Graecos Latinosque auctores non fuit cura postrema. Sicut enim animalia post hominem, ita ars veterinaria post medicinam secunda est. In equis enim ac mulis et adiumenta belli et pacis ornamenta constituent. Sed quo minus dignitatis videbatur habere professio, quae pecudum promittebat medelam, ideo a minus splendidis exercitata minusque eloquentibus collata docetur in libros, licet proxima aetate et Pelagonio non defuerit et Columellae abundaverit dicendi facultas. Verum alter eorum cum rusticae rei praecepta conscriberet, curas animalium levi admonitione perstrinxit, alter omissis signis causisque morborum, quasi ad doctissimos scriberet, tam magna rei fundamenta neglexit. Chiron vero et Apsyrtus diligentius cuncta rimati eloquentiae inopia ac sermonis ipsius vilitate sordescunt. Praeterea indigesta et confusa sunt omnia, ut partem aliquam curationis quaerenti necesse sit errare per titulos, cum de eisdem passionibus alia remedia in capite alia reperiantur in fine.⁴⁵

Among Greek and Latin authors, there has not been the least care for veterinary medicine. Just as animals come second to man, so has the veterinary art followed behind human medicine. Horses and mules, to be sure, provide support in times of war and ornament in times of peace. But since the profession which promises the cure of beasts seemed to have less dignity, it was exercised by the less prominent and was collected in book form by the less eloquent, even if in recent times the ability to write was not entirely lacking in Pelagonius and was abundant in Columella. Still, the latter, since he was writing about farming, touched only briefly on cures for animals, with little advice; while the former, omitting the symptoms and causes of diseases as though he were writing for very learned men, neglected the basic principles of the science. And Cheiron and Apsyrtus, though certainly they investigate everything more thoroughly, are sullied by their lack of eloquence and the low level of their language. Moreover, everything is disorganized and confused, so that it is necessary for someone searching for some part of a treatment to browse through the headings, since some remedies for the same ailments are to be found at the beginning and others at the end.⁴⁶

Vegetius, an amateur in the field of veterinary science as in that of military science, based his compilation upon other writers: when he names Columella, Pelagonius, and 'Apsyrtus and Cheiron', these seem to be his immediate sources rather than a survey of all veterinary works.

The last two names are apparently an allusion to the *Mulomedicina Chironis*. This enigmatic compilation has been much exploited as evidence of late and low Latin; yet the history of the text remains to be written. Cheiron the

veterinary medicine held at the Université de la Bretagne occidentale, 9–11 Sept. 2004), forthcoming. For the conventional attribution to the reign of Theodosius I see idem, *La Tradizione manoscritta della 'Mulomedicina' di Publio Vegezio Renato* (Acireale, 1998), 7. A new edition of the text is being prepared by Prof. Ortoleva.

⁴⁵ P. Vegeti Renati *Digestorum artis mulomedicinae libri*, ed. E. Lommatzsch (Leipzig, 1903), prol.

⁴⁶ Translation based on that of K.-D. Fischer, 'Ancient Veterinary Medicine', 197–8.

centaur, amalgam of horse and man, is associated in Greek literature from earliest times with healing, the teaching of medicine, and the preparation of drugs.⁴⁷ He is also linked with veterinary medicine: Columella alludes to Cheiron's 'learning in the care of cattle' (*in pecoris cultu doctrinam Chironis*), in an enumeration of semi-legendary sages such as Pythagoras and Melampus.⁴⁸ Cheiron's name appears in the *Hippiatrica* twice, in a rhetorical invocation and in a spell, as a deity rather than an author. In a third instance a remedy is called *χειρώνειον*.⁴⁹ But a Greek work on horse-medicine going under the centaur's name (and no longer extant) may lie behind the *Mulomedicina Chironis*.⁵⁰ Book II of the *Mulomedicina* is a compilation of excerpts from Apsyrtus, Sotion, and Farnax; it may well represent a compilation similar to the *Hippiatrica*.⁵¹

Indeed, the invention of the discipline of horse-medicine is attributed to Cheiron by Isidore of Seville (sixth century AD), with his customary logic, and probably with the *Mulomedicina Chironis* in mind.⁵²

Medicinam iumentorum Chiron quidam Graecus invenit. Inde pingitur dimidia parte homo, dimidia equus.

Cheiron, a certain Greek, invented horse-medicine. For this reason he is depicted as half man, half horse.

In the twelfth-century chronicle of George Cedrenus, credit is given instead to one Sosandros, said to have been the brother of Hippocrates: the relation of human and veterinary medicine is symbolically expressed as a fraternal one.

Τούτῳ [Δημοκρίτῳ] συνήκμαζε καὶ Ἱπποκράτης φιλοσοφῶν καὶ ἰατρικὴν ὡς ἄριστα κατορθούμενος. ὃ ἦν ἀδελφὸς Σώσανδρος ὀνομαζόμενος καὶ τὴν ἵππιατρικὴν, ἅμα δὲ καὶ πάντων τῶν κτηνῶν τέχνην μετερχόμενος· πρὸς ὃν φασιν εἰρηκέναι τὸν Ἱπποκράτην· ἢ τὸ ὄνομα μετέβαλε ἢ τὴν τέχνην μετάμαθε.⁵³

At the same time as [Democritus] flourished Hippocrates [i.e. 'lord of horses'], who was a philosopher and most greatly accomplished in medicine. He had a brother,

⁴⁷ *Iliad* 4.218–19; 11.829–32; cf. F. Graf, 'Chiron', *Der Neue Pauly*, 2. 1127–8.

⁴⁸ I pref. 32.

⁴⁹ B1.24, *CHG* I p. 4; M691, *CHG* II p. 83; M460, *CHG* II p. 65.

⁵⁰ Oder, *Mulomedicina*, pp. viii ff.; cf. *Souda* (Adler, X 267), *Χείρων· Κένταυρος· ὃς πρῶτος εὗρεν ἰατρικὴν διὰ βοτανῶν. Ὑποθήκας δι' ἐπὶ ὧν ἂς ποιεῖται πρὸς Ἀχιλλέα· καὶ ἵππιατρικόν*. 'Cheiron: a centaur, who first discovered healing with herbs. Instructions in verse, which he created for Achilles. And a work on horse-medicine.'

⁵¹ K.-D. Fischer, 'Probleme der Textgestaltung in der sogenannten *Mulomedicina Chironis*', in I. Mazzini and F. Fusco (eds.), *I Testi di medicina latini antichi: problemi filologici e storici*. Atti del I. Convegno Internazionale, Macerata, S. Severino M., 26–28 aprile 1984 (Rome, 1985), 255–71; 'Ancient Veterinary Medicine', 199–200. Prof. Fischer is preparing a new edition of the text.

⁵² *Isidori Hispalensis Etymologiarum sive Originum libri xx*, ed. W. M. Lindsay (Oxford, 1911), IV. ix. 12.

⁵³ Cedrenus, ed. Bekker, I, p. 213.

Sosandros [i.e. ‘saviour of men’], who developed the healing of horses, as well as that of all beasts. They say that Hippocrates said to him ‘Either change your name or exchange your discipline.’

The last sentence is a clue that the origin-myth related by Cedrenus may simply be the echo of an epigram (preserved in the Planudean anthology) which elaborates a pun on the name of the ‘father of medicine’:

Εἰς Σώσανδρον ἰππίατρον
Ἰητὴρ μερόπων, Ἱπποκράτης, ἀλλὰ καὶ ἵππων,
Σώσανδρε, κρυφίης ἵστορ ἀκεστορίης,
ἢ τέχνην μεταμίψατ’ ἢ οὖνομα· μήδε καλείσθω
*ἄτερος ἐκ τέχνης, ἥς ἔτερος κρατεῖ.*⁵⁴

On Sosandros the horse-doctor

Healer of mortals, Hippocrates; and also of horses,
 Sosandros, master of an obscure healing art,
 Either exchange your professions, or your names: let neither be called
 after a profession in which the other excels.

In the fourteenth-century allegorical poem of Meliteniotes, a statue of Sosandros appears among those of the pagan poets, philosophers, sages, and sorcerers:

καὶ Σώσανδρος ὁ θεῖος
*ὃς τὴν ἰπποϊατρικὴν εὗρε τῶν ἄλλων πρῶτος*⁵⁵
 and divine Sosandros,
 who invented horse-medicine before anyone else.

The names Osandros and Sostratos in the titles of fifteenth-century manuscripts of the *Epitome* of the *Hippiatrica* may also allude to this myth.⁵⁶

THE HIPPIATRICA

The most copious evidence for the nature of Greek veterinary medicine and the extent of its literature comes from the *Hippiatrica* itself. The earliest text that may be identified in any recension of the compilation is the fragment attributed to Simon from the fifth century BC; the latest element is a pair of

⁵⁴ AP XVI.271, ed. H. Beckby (Munich, 1958), p. 446. See F. Smith, *The Early History of Veterinary Literature and its British Development*, vol. 1 (London, 1976; repr. from the *Journal of Comparative Pathology and Therapeutics*, 1912–18), 34–5.

⁵⁵ E. Miller, ‘Poème allégorique de Meliteniote’, *Notices et extraits*, 19.2 (1862), 71.

⁵⁶ The MSS are Par. gr. 1995 (Σώστρατος) and Par. gr. 2091: (Ὅσαντρος); the connection to AP XVI.271 noted by E. Miller, ‘Notice sur le manuscrit grec N^o. 2322’, in *Notices et extraits*, 21 (1865), 5–6.

recipes attributed to the notorious hippomane Theophylact, patriarch of Constantinople 933–56. But the core, so to speak, of the encyclopaedia is drawn from authors who belong to the period of Late Antiquity.

The principal sources of the *Hippiatrica* are seven Late Antique texts: the veterinary manuals of Eumelus, Apsyrtus, Theomnestus, Hierocles, and Hippocrates; a translation into Greek of the Latin text of Pelagonius; and the chapter on horses from the agricultural compilation of Anatolius. The Latin treatise of Pelagonius is the only one of these sources transmitted independently in its original language and something akin to its original form: the Greek veterinary texts are known primarily from excerpts in the various recensions of the compilation. Although the authors of these texts allude to Simon and Xenophon, venerable predecessors deep in the Classical past, the roots of their tradition lie in the agricultural literature of the Hellenistic period derived from Mago of Carthage. The earliest treatises, those of Eumelus (third century AD?) and Anatolius (fourth century?), remain close to those roots. The treatises of Apsyrtus (third or fourth century) and Theomnestus (fourth century) represent scientific progress resulting from the interaction between written tradition and their own personal experience and criticism: the λόγος and πεῖρα that Galen had called the two legs of medicine. Pelagonius and Hierocles (fourth or fifth century?) repackaged the work of others for elite audiences in different parts of the empire, while the text of Hippocrates represents the lower end of the literary market. These texts are rich in technical vocabulary and information, and, on the whole, not lacking in literary style. The apparent homogeneity of their content belies the diversity of their characters. Since, in the *Hippiatrica*, the attributions of excerpts and the traits of their character are, in general, preserved, one may discern the distinct identities of the authors: soldiers, orators, compilers; professional horse-doctors and amateurs; writers of Latin and of Greek.

A passage in which Theomnestus describes his journey over the Alps, apparently to the wedding of the emperor Licinius in AD 313, provides the only evidence, in the source-treatises, for a precise date. Approximate or relative dates for the other authors may be deduced from the manner in which they refer to one another. The earliest author in the corpus is Eumelus, whom Apsyrtus cites. Apsyrtus in turn is cited by Pelagonius, Theomnestus, and Hierocles, who therefore post-date him. The treatises that make up the core of the *Hippiatrica* provide us with evidence of the growth of a genre within a relatively brief period between the third and fifth or sixth centuries, primarily in the Greek-speaking parts of the Roman empire, but with some instances of translations into and from Latin.

In addition to the seven, two more sources, apparently also of Late Antique date, were added to the compilation in the tenth century: that of Tiberius and

an anonymous set of *Prognoseis kai iaseis*. Embedded in the excerpts are references to more than thirty other authors and practitioners.⁵⁷ Among them are a few well-known writers on medicine such as Diocles of Carystus and Celsus. The majority, however, are more obscure. Nephon, Agathotychus, Hippasios, and Cassius are quoted by Theomnestus; Hierocles refers to Gregory, Stratonicus, and Hieronymus. Often remedies are simply attributed to *τινές* or *ἐνιοι*—whether these are written or oral sources is not clear. In the C recension, cameo appearances are made by illustrious antique authors: Homer and St John Chrysostom, Simon of Athens and Julius Africanus. In later recensions, new problems arise as a number of questionable attributions to famous sages and sophists—Ambrose, Choricus, Apollonius of Tyana, Galen—creep into the compilation.

The relation of the sources to one another is made obvious by virtue of their juxtaposition in the encyclopaedia. Citations and parallel passages show that treatises are closely dependent upon one another with respect to their scientific content: this ‘family resemblance’ may have been one of the reasons that they were gathered in the compilation. One may also discern a literary interaction between the various authors in instances of quotation, paraphrase, criticism, imitation of style, and translation.

Worthy of note is the diversity of literary forms contained in the sources of the *Hippiatrica*: letters, incantations, proverbs, poetry, prooimia, reminiscences, medical definitions, instructions, and recipes. There is also a great variety of styles: although the treatises consist for the most part of plain technical writing, the *Hippiatrica* also contains the formal language of medical theory and the formulaic language of traditional remedies, as well as recipes with no syntax at all. In different recensions one may find magical formulas, flowers of the rhetoric of the Second Sophistic, or a specimen of Attic prose of the fifth century BC. Even a single author’s work may contain a number of these forms and styles; in identifying them one must be aware of each author’s sources and models. The language of the sources is the Greek of Late Antiquity, characterized by the presence of Latin loanwords. It combines the rich technical language of medicine with the equally rich vocabulary of the stables.

There is no discussion of horsemanship in the text: veterinary medicine was evidently a specialized and separate discipline. There is a certain amount of material on choosing a horse, and on different breeds, instructions for breeding horses and mules, and some for stabling, feeding, grooming, and early training. But the greatest part of the text consists of descriptions of diseases and prescriptions for their cure. The prescriptions on the whole belong to the three classical divisions of therapy as we know them from the

⁵⁷ See the index of names, *CHG* I pp. 451–3.

tradition of human medicine: diet, drug therapy, and surgical intervention.⁵⁸ Only two case-studies are present. The *Hippiatrica* is a reference-book within the Graeco-Roman paradigm of medicine, to use T. S. Kuhn's model;⁵⁹ intended for the horse-doctor interested in comparing the opinions of his predecessors, or perhaps for the horse owner seeking not only advice, but also a second, third, or fourth opinion.

Celsus classified horse-doctors among the Methodists;⁶⁰ nevertheless, the hippiatric texts cannot easily be identified as belonging to a distinct school of medical thought or practice. They belong to the same paradigm, in which they represent works of 'normal science', in Kuhn's terminology. One may nevertheless trace the development of the discipline through the texts preserved in the *Hippiatrica*. The earlier authors in our compilation draw their content verbatim from the ancient tradition of agricultural manuals and offer simple remedies. Later authors present greater affinities to human medicine, from which they borrow more sophisticated theory, vocabulary, pharmacology, and techniques.

In all of the sources of the *Hippiatrica*, emphasis is overwhelmingly on practical treatment rather than on medical theory or aetiology. There is a near-complete absence of introductory or abstract material: the *Hippiatrica* does not represent an attempt at a systematic exposition of the veterinary art; it contains no discussion of the nature of the states of sickness and health, or of the categories of therapy, or of the forms of medical instruments. Medical theory is nowhere elaborated, but is in the background, so to speak, occasionally alluded to in mentions of humours and ducts. Pharmacology draws not only upon products of the Mediterranean area, but also upon a variety of spices provided by far-ranging networks of trade, one whose routes and stations were expanded and developed during the first centuries of the Christian era to make commodities from the Far East readily accessible in the Roman world.⁶¹ Some of the *materia medica* of the *Hippiatrica* is still used in modern medicine, for example willow bark (from which aspirin is derived), and poppy milk (opiates). The antibiotic properties of other *materia medica* ubiquitous in the antique veterinary texts, such as cinnamon, ginger, pepper, and garlic, are being rediscovered, so to speak.⁶²

⁵⁸ Cf. Celsus, *De medicina*, proem. 9.

⁵⁹ T. S. Kuhn, *The Structure of Scientific Revolutions* (Chicago, 1970).

⁶⁰ *De medicina*, proem. 65.

⁶¹ J. I. Miller, *The Spice Trade of the Roman Empire* (Oxford, 1969); E. H. Warmington, *The Commerce of the Roman Empire with India* (Cambridge, 1928; repr. New Delhi, 1995). A. McCabe, 'Imported *Materia Medica*, 4th–12th centuries, and Byzantine Pharmacology', in M. M. Mango (ed.), *Byzantine Trade, Fourth to Twelfth Centuries*, Proceedings of the 38th Spring Symposium of Byzantine Studies, Oxford, 2004 (forthcoming).

⁶² J. Billing and P. Sherman, 'Antimicrobial Functions of Spices. Why Some Like it Hot', *Quarterly Review of Biology*, 73.1 (Mar. 1998), 3–49.

In addition to what one might term 'medical' cures, all but one of the hippiatric authors prescribe amulets, incantations, or other irrational treatments.⁶³ Some of these are simple superstitious remedies, based upon sympathy and antipathy; others are more elaborate appeals to the shadowy pantheon of the Late Antique occult. Attitudes toward magic, both official and private, were, to be sure, ambiguous.⁶⁴ A decree of Constantine I in the Theodosian Code, while condemning the dark arts of soothsayers and astrologers, makes a concession for incantations of a beneficial nature in two specific contexts: to cure the ailments of the human body, or in an agricultural domain.⁶⁵ On the other hand, Ammianus Marcellinus describes the brutal punishment, under Constantius II, of those who engaged even in benign forms of healing magic, such as the wearing of amulets, or the curing of fevers with incantations.⁶⁶ The *Mulomedicina Chironis* contains a condemnation of magical cures; at the same time, however, the text contains allusions to superstitious practices.⁶⁷ But the juxtaposition of rational and irrational cures in the veterinary treatises is paralleled in the third-century *Kestoi* of Julius Africanus, which give instructions for rational medical treatments, and also for amulets for healing and protection.⁶⁸ Africanus was an educated man, and his compilation cannot be dismissed as crude superstition; rather, it is evidence of the prevalence of magical practices.⁶⁹ In the sixth century, Alexander of Tralles, hardly an ignorant or unsophisticated writer, includes a selection of irrational treatments in his medical manual, explaining that even though he himself does not believe in their efficacy, the patient often does.⁷⁰ (This sort of placebo effect obviously would not work on horses, but might satisfy their owners.)

⁶³ On magic in the *Hippiatrica*, see G. Björck, 'Apsyrtus, Julius Africanus, et l'hippiatrique grecque', *Uppsala Universitets Årsskrift* 1944, 4: 52 ff.; Adams, *Pelagonius*, 20 ff.

⁶⁴ See A. A. Barb, 'The Survival of Magic Arts,' in A. Momigliano (ed.), *The Conflict between Paganism and Christianity in the Fourth Century* (Oxford, 1970), 100–25.

⁶⁵ 'Nullis vero criminationibus implicanda sunt remedia humanis quaesita corporibus aut in agrestibus locis...', *Cod. Theod.* IX.16.3 (AD 321), confirmed in Justinian's code, IX.18.4.

⁶⁶ 16.8.1, 29.2.26–7.

⁶⁷ 'minus intelligentes...veterinariorum iudico, qui putant praecantationibus aut remediis dolore ventris posse sanari', ed. Oder 205, but cf. 952 (spitting as a remedy), 497 (*fascinatio*), and 974 (incantation to cure the swallowing of a bone).

⁶⁸ Viellefond, *Les 'Cestes' de Julius Africanus* (Paris, 1970), I.10, I.8, I.11, III.35.

⁶⁹ Björck's comment that the father of Christian chronography could only have composed the *Kestoi* if afflicted by senile dementia ('Apsyrtus, Julius Africanus', 23) is unjustified; see Vieillefond, 'Les Cestes', 53–4 for a response to Björck and a revised judgement of Africanus (including the instructive parallel of the Abbé Migne).

⁷⁰ Ed. Puschmann, II, pp. 375–7, II. 579 (amulets); II. 475 (on incantations, citing his experience of their efficacy).

Certainly some people had doubts about the use of magic. In the sixth century, outside of Gaza, a pious villager put the following question to John and Barsanouphios, the local holy men:

Ἐρώτησις· τὸ ἄλογόν μου ἐπειδὴ ἀσθενεῖ, μὴ ἄτοπον ἐστὶ τὸ ποιῆσαι τινὰ ἐπιλαλήσαι αὐτῷ;

Question: My horse is unwell; would it really be wrong to have someone perform an incantation over it?

Father John replied,

Ἀπόκρισις· Ἐπιλαλία ἀπαγορεύεται ὑπὸ τοῦ θεοῦ, καὶ οὐ δεῖ αὐτῇ ὅλως χρήσασθαι· ἀπώλεια γάρ ἐστι ψυχῆς τὸ παρεξελθεῖν τὴν κέλευσιν τοῦ θεοῦ· τὰς ἄλλας θεραπείας μᾶλλον, τῶν ἵππιατρῶν, προσένεγκε αὐτῷ· οὐκ ἔστι γὰρ τοῦτο ἁμαρτία· ἐπίχεε δὲ αὐτῷ καὶ ἁγίασμα.

Response: The casting of spells is forbidden by God, and must not be employed at all, for to transgress God's command is the ruination of the soul. Administer to it rather the other sort of treatments, those of the horse-doctors, for they are not a sin. Also—sprinkle holy water over it.⁷¹

Notwithstanding their condemnation of magic, the holy fathers themselves recommend an 'irrational' treatment, holy water, along with the 'rational' treatments of the *hippiatroi*.⁷² The various recensions of the *Hippiatrica* provide evidence that horse-doctors could prescribe magic too. Moreover, the censoring and the return of magic discernible in various recensions show that contradictory attitudes persisted throughout the Byzantine period, and illustrate the perennial appeal of magical cures.

⁷¹ S. Schoinas [repr. of the edn. by Nikodemos Hagiorites], *Βίβλος ψυχοφελεστάτη, περιέχουσα ἀποκρίσεις . . . Βαρσανουφίου καὶ Ἰωάννου* (Volos, 1960), no. 753, p. 332; corrections from L. Regnault, P. Lemaire, and B. Outtier, *Barsanuphe et Jean de Gaza: Correspondance* (Solesmes, 1971), no. 753, pp. 465–6.

⁷² According to the 5th or 6th-c. *Life* of St Hypatios, when a demon was killing off post-horses in a stable on the Asiatic side of the Bosphorus near Rufinianae, the distressed σταβλιστής sought help from the saint, whose monastery was near by. The saint gave him holy water to sprinkle over the stable and the horses, as well as an amulet (εὐλογία) to hang up in the stable—and no more horses died. *Callinicos, Vie d'Hypatios*, ed. G. J. M. Bartelink (Paris, 1971), 38.

Manuscripts of the *Hippiatrica*

THE texts of the *Hippiatrica* exist in twenty-two manuscripts, some of which contain more than one copy of the text, so that there are twenty-five copies altogether.¹ These manuscripts range in date from the tenth century to the sixteenth; they represent a variety of levels of production, and contain five principal recensions of the compilation. The practical nature of the *Hippiatrica* may have contributed to the preservation of the text, but also contributed to its mutation in transmission: as is the case with other technical literature, the compilation was added to, subtracted from, adapted, and rearranged in accordance with the tastes and needs of its editors and users, with the result that nearly every one of the early manuscripts contains a substantially different version of the text.

Of the five principal recensions, three (M, B, and D) represent the complete encyclopaedia, while the other two (RV and E) are shorter versions, E being an abridgement or 'epitome'. The ten copies of the *Epitome* represent the fluid transmission of a vernacular text, containing five distinct, though closely related versions of the treatise.² Only one version of the *Epitome* concerns us here, namely that which is included in the RV recension.

M recension:

Parisinus gr. 2322, 10th c.

M

B recension:

Phillipicus 1538 (Berolinensis gr. 134), 10th c.

B

¹ The list of manuscripts in *CHG* II p. 15 is incomplete, as are those of G. Costomiris, 'Études sur les écrits inédits des anciens médecins grecs, quatrième série: Hippiatriques et auteurs du XI^e siècle', *REG* 5 (1892), 61–8; and G. Björck, 'Zum *Corpus hippiatricorum graecorum*. Beiträge zur antiken Tierheilkunde', *Uppsala Universitets Årsskrift* (1932), 15–18, and 'Apsyrus, Julius Africanus, et l'hippiatrique grecque', *Uppsala Universitets Årsskrift* (1944. 4). A complete list is given in A.-M. Doyen-Higuet, 'Les textes d'hippiatrie grecque, bilan et perspectives', *L'Antiquité classique*, 50 (1981), 262–3. The symbols indicated here are those adopted by Oder and Hoppe, Björck, and Doyen-Higuet. M, B, b, C, L, and V are described in *CHG* II pp. xiv–xxix.

² The text of the *Epitome* is the subject of A.-M. Doyen-Higuet, 'Un manuel grec de médecine vétérinaire: Contribution à l'étude du *Corpus Hippiatricorum Graecorum*' (unpublished Ph.D. thesis, Louvain-la-Neuve, 1983); the other manuscripts and recensions are also treated in vol. I, 8–41.

Vaticanus Urbinas gr. 80, early 15th c.	U
Parisinus gr. 2245, second half 15th c.	P
Phlippicus 1539 (Berolinensis gr. 135), 1539–42	b
Oxonienis Baroccianus 164, second half 16th c.	O
Florentinus Laurentianus Pluteus 75. 6, late 14th/early 15th c.	l
Vaticanus Barberinianus gr. 212, late 15th/early 16th c.	K
Londinensis Additional 5108, first half 16th c.	a
Romanus Bibliothecae Corsiniana 43. D. 32 (Rossi 358), first half 16th c.	c
Neapolitanus Borbonicus III. d. 26, first half 16th c.	N
D recension:	
Cantabrigiensis Collegii Emmanuelis 251 (III. 3. 19), 13th c.	C
Londinensis Sloane 745, 13th or 14th c.	L
RV recension:	
Parisinus gr. 2244, 14th c.	R
Lugdunensis Vossianus gr. Q 50, 14th c.	V
E = the <i>Epitome</i> :	
Parisinus gr. 2244	
Parisinus gr. 2244, a second copy in another hand (14th c.)	
Lugdunensis Vossianus gr. Q 50	
Parisinus gr. 2091, late 14th/early 15th c.	
Vaticanus Ottobonianus gr. 338, 16th c.	
Vaticanus gr. 1066, 15th c.	
Vaticanus gr. 114 (first section), 15th c.	
Vaticanus gr. 114 (second section)	
Parisinus gr. 1995, 14th c.	
Vaticanus Palatinus gr. 365, 15th c.	

The texts contained in these five recensions bear enough resemblance to one another that they may be assumed to descend from a single original compilation, which was designated by Björck ‘A’.³

THE M RECENSION

Parisinus gr. 2322, or ‘M’ (168 by 130 mm, 263 folia), is written on fine parchment in a plain hand attributed to the eleventh century by Omont,⁴ but which, Mr Nigel Wilson has suggested to me, is more likely to belong to the late tenth.

³ ‘Zum CHG’, 19–20.

⁴ H. Omont, *Inventaire sommaire des manuscrits grecs de la Bibliothèque nationale* (Paris, 1898), 239. The ruling is type 20D1 in J. Leroy, *Les Types de reglure des manuscrits grecs* (Paris, 1976).

The title *Ἀψύρτου, Διοκλέους, Πελαγονίου κ(αὶ) λοιπῶν κεφάλαια π(ερὶ) θεραπείας ἵππων* precedes the *pinax* or table of contents on fo. 1^r (Pl. 1). The only decoration of the manuscript consists of a *pyle* decorated with palmettes coloured in red, blue, and gold which frames the first lemma of the text (fo. 25^r) (Pl. 2). The end of the manuscript is lost, so that while the table of contents lists 1223 excerpts, the final passage of extant text is that numbered 1166.

M was in the possession of the Greek humanist Janus Lascaris (1445–1534):⁵ it is inscribed with his monogram (Λ^σ) and with shelfmarks in the distinctive hand of Matthaios Devaris (c.1500–81).⁶ Devaris (Δεβαρῆς), a Corfiote, studied at the Greek college in Rome founded c.1516 at Lascaris' instigation by Pope Leo X, and became Lascaris' secretary.⁷ These shelfmarks, and the title on fo. 1^r, correspond to an entry in Devaris' list of books that had belonged to Lascaris, made after the latter's death.⁸ Marginal notes in faded gold-brown ink, in a hand not unlike Lascaris', repeat the lemmata of many excerpts, with numbers different from those in the text.⁹ Notes in a different hand, in black ink, throughout the *pinax* and the text comment with great enthusiasm and poor spelling that various treatments are useful or that the

⁵ J. Irigoin, 'Lascaris Rhynadacenus (Janus) (1445–1534)', in C. Nativel (ed.), *Centuria Latinae: Cent une figures humanistes de la Renaissance aux Lumières offertes à Jacques Chomarat* (Geneva, 1997), 485–91; A. Pontani, 'Per la biografia, le lettere, i codici, le versioni di Giano Lascari', in M. Cortesi and E. V. Maltese (eds.), *Dotti bizantini e libri greci nell'Italia del secolo XV* (Naples, 1992); B. Knös, *Un ambassadeur de l'hellénisme: Janus Lascaris et la tradition greco-byzantine dans l'humanisme français*, I (Uppsala, Stockholm, and Paris, 1945); E. Legrand, *Bibliographie hellénique des XVe et XVIe siècles*, I (Paris, 1841; repr. 1962), cxxxix–clxxii; and N. Papatriantaphyllou-Theodoride, 'Οἱ Ἰανὸς Λάσκαρις καὶ οἱ τύχες τῆς βιβλιοθήκης του', in *Μνήμη Αἰνίου Πολίτη (Ἀριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Επιστημονικὴ Ἐπετηρίδα Φιλοσοφικῆς Σχολῆς, 1988)*, 122–31.

⁶ 3rd flyleaf, verso: 'N° 19, ca. 5a'. 4th flyleaf, recto: 'ἐκ τῆς πέμπτῃς, N° IXX, sexta, Λ° N° 19'.

⁷ E. Gamillscheg and D. Harlfinger, *Repertorium der griechischen Kopisten 800–1600*, 2A (Vienna, 1989), 139–40, no. 364 and 3A, 165–6, no. 440; Legrand, *Bibliographie hellénique des XVe et XVIe siècles*, I, cxcv–cxviii; P. de Nolhac, *La Bibliothèque de Fulvio Orsini* (Paris, 1887; repr. Geneva and Paris, 1976), 156–61. On the Greek college, see Knös, *Un ambassadeur*, 140–57.

⁸ Vaticanus gr. 1414, fo. 99^r. The list is entitled 'lista de libri che furon del Sr. Lascheri'; the MS is described as 'ἵππιατρικὸν ἐκ διαφόρων. N° 19 .5'; P. de Nolhac, 'Inventaire des manuscrits grecs de Jean Lascaris', *Mélanges d'archéologie et d'histoire*, 6 (1886), 255. Among Lascaris' autograph notes in Vat. gr. 1412 is a list of 'books he has with him' (*Πίναξ τῶν βιβλίων τοῦ Λασκάρεως, ἅπερ ἔχει παρ' ἑαυτοῦ*), which includes an 'old Hippiatrica' and a 'new Hippiatrica', both apparently on parchment (*ἵππιατρικὸν καινόν, περ.; ἵππιατρικὸν παλαιόν, περ.*). One of the entries presumably refers to M; but there are only two other parchment manuscripts of the *Hippiatrica*, namely B and C, neither of which has any clear connection to Lascaris. R, as we shall see, also has shelfmarks in Devaris' hand; it is on paper though. See K. K. Müller, 'Neue Mittheilungen über Janos Laskaris und die Mediceische Bibliothek', *Centralblatt für Bibliothekswesen*, I (1884), 410. Both Vat. gr. 1412 and Vat. gr. 1414 belonged to Fulvio Orsini: de Nolhac, *La Bibliothèque de Fulvio Orsini*, 349.

⁹ On the style of Lascaris' annotations (throughout MS from beginning to end; echoing, not commenting on, texts) see B. Mondrain, 'Janus Lascaris copiste et ses livres', in G. Prato (ed.), *I manoscritti greci tra riflessione e dibattito*. Atti del V Colloquio internazionale di paleografia greca (Cremona, 4–10 ott. 1998), I (Florence, 2000), 416–26.

claims made for the remedy are true.¹⁰ After Lascaris' death, many of his books, including M, passed to Cardinal Niccolò Ridolfi (d. 1550), grandson of Lascaris' patron Lorenzo de' Medici and nephew of Leo X (Lorenzo's son Giovanni de' Medici).¹¹ Devaris subsequently became secretary and librarian to Ridolfi, compiling a catalogue of the cardinal's library as well; M figures in that catalogue, among 618 Greek manuscripts.¹² Along with other manuscripts from Ridolfi's collection, M was purchased in 1550 by Marshall Piero Strozzi, who was campaigning at the head of a French army in Italy.¹³ Strozzi died in 1558; his library remained at his house in Rome until at least 1560; it was then transported to France with the aid of Catherine de' Medici (a relative), who eventually took possession of the books. Catherine's library entered the royal collection of France under Henri IV.¹⁴ The binding of M is stamped with the arms of Henri IV and the date 1603.

The recension of the *Hippiatrica* in Parisinus gr. 2322 is referred to as 'M' after Emmanuel Miller, who, in 1865, drew attention to the manuscript, pointing out that its text differs substantially from that presented in the only printed edition available at the time, the *editio princeps* of Simon Grynaeus (Basel, 1537).¹⁵ Having learned of Charles Daremberg's intention of including a revised *Hippiatrica* in the *Collection des médecins grecs et latins*, Miller renounced his plan of editing the text, and published only an expanded table of contents, with transcriptions of passages not found in the printed edition.¹⁶ Although, of all the surviving versions of the *Hippiatrica*, M appears

¹⁰ 202^r: καληστον κ(αι) αλιθαστατον, 209^r: μι το αφισης αλλα πιησ(ον) αυτο, 219^r: βλεπε κ(αι) μαθε οτι καλον εστιν το φαρμακον κ(αι) μι υπερβι, 225^r: τουτο αρτι εστιν καλον τας αρχας μαρτιου, 245^r: εαν θελης εχην λιπαρον υπον μι το παραβιβασης.

¹¹ On Ridolfi, see C. Frati and A. Sorbelli, *Dizionario bio-bibliografico dei bibliotecari e bibliofili italiani dal sec. XIV al XIX* (Florence, 1933), 496–7.

¹² Par gr. 3074, apparently a copy of lost catalogue by Devaris once in the hands of Fulvio Orsini, fo. 15^r: ἀψύρτου διοκλέους πελαγωνιόν, καὶ ἄλλων παλαιῶν ἱππιατρικά· εἶτουν θεραπεία ἱππων (sic). The title is nearly identical to that on fo. 1^r of M. The notice also appears in Vat. gr. 1567, a 16th-c. copy of Par. gr. 3074, fo. 17^r. See G. Mercati, 'Indici di MSS greci del card. N. Ridolfi', *Mélanges d'archéologie et d'histoire*, 30 (1910), 51–5, who suggests that the catalogue might be of Lascaris' library rather than Ridolfi's. M also figures in a shorter catalogue, preserved in Rome, Vallicellanus C 46: see H. Omont, 'Un premier catalogue des manuscrits grecs du cardinal Ridolfi', *Bibliothèque de l'École des Chartes*, 49 (1888), 320, no. 108: ἀψύρτου καὶ ἄλλων ἱππιατρικά· εἶτουν θεραπεία ἱππων. 19. The same notice figures in Vat. gr. 2300 (a 16th-c. copy), fo. 18^r. Mercati suggests that the short catalogue may in fact be an extract of the long one: 'Indici di MSS greci', 53.

¹³ L. Delisle, *Le Cabinet des manuscrits de la Bibliothèque Impériale* (Paris, 1868), 209. Omont, 'Un premier catalogue', 309, notes that Strozzi translated Caesar into Greek.

¹⁴ R. Baladie, 'Contribution à l'histoire de la collection Ridolfi: la date de son arrivée en France', *Scriptorium*, 29 (1975), 76–83.

¹⁵ B. E. C. Miller, 'Notice sur le manuscrit grec No. 2322 de la Bibliothèque impériale, contenant le recueil des ΙΠΠΙΑΤΡΙΚΑ', *Notices et extraits*, 21.2 (1865), 1–161.

¹⁶ Ibid. 13 ff.

to be closest to A,¹⁷ the text of this recension has still not been published in complete form.¹⁸

The text of M is simply organized. There is no preface: the text begins with an excerpt from Apsyrthus, which contains the introduction to his treatise as well as a chapter on fever. Excerpts labelled with Apsyrthus' name introduce almost every subject, beginning with fever and continuing through various maladies and injuries, with no discernible logic in their order. Apsyrthus' information is fleshed out with a series of passages taken from six other authors. These excerpts are listed in consistent order—*Ἀψυρτος*, *Ἀνατόλιος*, *Εὐμηλος*, *Θεόμνηστος*, *Ἱπποκράτης*, *Ἱεροκλῆς*, *Πελαγώνιος*—that is, more or less alphabetically, according to the first letter only of each author's name.¹⁹ Excerpts are labelled with lemmata stating their subject; the author's name is also given in the lemma, but not repeated if a series of excerpts from the same text appear consecutively. Occasionally the names of 'embedded' sources cited by one of the seven authors appear in the lemmata. Not all the authors are represented for every subject: the complete series of authors appears only four times.²⁰ Whereas excerpts from Apsyrthus introduce nearly every one of the first 116 series of excerpts, after excerpt 1062 Apsyrthus' name no longer appears. Anatolius heads the next series, and then drops out; Eumelus introduces six series, Theomnestus two, Hippocrates five, Hierocles two, and finally Pelagonius one series.²¹

The excerpts are numbered in continuous sequence in the left margin. These numbers and the ones in the table of contents are not entirely in harmony: a few excerpts, omitted from the table, are unnumbered in the text,²² and the table also lists chapters not present in the body of the text.²³ The last few excerpts which appear in the *pinax*, but are lost from the end of the manuscript, may include accretions to the text of the seven authors, since they include excerpts attributed to Dioscorides and to a certain Christodoulos, (the only obviously Christian name).²⁴ Also present at the end of the table of

¹⁷ Oder and Hoppe, *CHG* II p. xviii.

¹⁸ The new edition, with an English translation, which I am preparing will, I hope, make the text more accessible.

¹⁹ The alphabetical order of authors is disrupted only twice, M121 (Theomnestus) preceding M122 (Eumelus), and M530 (Hierocles) preceding M531 (Theomnestus).

²⁰ Wounds: M207–90; eye: M349–424; cough: M458–525; colic: M570–614.

²¹ This arrangement is described in *CHG* II p. xviii; Björck, 'Apsyrthus, Julius Africanus', 31.

²² These disturbances to the text listed in *CHG* II pp. xxii–xxiii. Anonymous: M81 and 621, both attributed to Apsyrthus by their placement in the series; one may note that in content they are (as are many passages of Apsyrthus) very similar to Anatolius in *Geop.* XVII.5.3/ XIX.5.4 and VII.13, respectively.

²³ According to the numbering of the table of contents, 737 *Θεομνήστον πρὸς τοὺς ἀναφέροντας τὴν τροφήν διὰ τοῦ στόματος καὶ τῶν ῥινῶν*, and 1025 *Ἀψύρτου πρὸς ὁστέων ἀναγωγὴν*.

²⁴ Lost excerpts: M1067 ff., *CHG* II pp. 26–8; Christodoulos and Dioscorides M1211 ff., *CHG* II p. 28.

contents, but not in the manuscript, are two metrological texts: ἐκ τῶν τῆς Κλεοπάτρας κοσμητικῶν περὶ σταθμῶν καὶ μέτρων, and περὶ μέτρων καὶ σταθμῶν ἵπποιατρικῶν.

THE B RECENSION

The text of the B recension exists in ten copies. Of these, the most important is the magnificent Phillipps 1538, Berolinensis 134, or 'B', used as the basis for the Teubner edition.²⁵ This manuscript has been identified on the basis of its size (265 by 296 mm, 394 folia) and rulings as a product of the imperial scriptorium of the tenth century;²⁶ according to Irigoín, it is the only one of this important group which can be called a 'manuscrit de grand luxe'.²⁷ B receives this appellation because of the extraordinary fineness of its parchment, calligraphy, and decoration. The splendour of the manuscript has led to its mutilation: several folia are missing, and a number of the ornamented bands have been cut out.²⁸ The decoration does not replicate a model from Late Antiquity, but is in a purely medieval style.²⁹ The *pylae* which frame the title at the start of each chapter are decorated in gold and brilliant colours with patterns of medallions containing blossoms or palmettes, related in design to those on enamels, ivories, and architectural sculpture of the Middle Byzantine period (Pls. 3–4).³⁰ Within the *pylae*, chapter-headings are written in gold, in large, round, lacy uncials.³¹ Narrower bands of decoration divide excerpts within the chapters. Capital

²⁵ CHG II pp. xiv–xv; W. Studemund and L. Cohn, *Verzeichniss der griechischen Handschriften der königlichen Bibliothek zu Berlin* (Berlin, 1890), 55.

²⁶ J. Irigoín, 'Pour une étude des centres de copie byzantins II', *Scriptorium*, 13 (1959), 177–81. The ruling is Lake type I 2b (Leroy 20D1). See also K. Weitzmann, 'The Character and Intellectual Origins of the Macedonian Renaissance', in *Studies in Classical and Byzantine Manuscript Illumination* (Chicago, 1971), 194–5; J. Kirchner, *Miniaturen-Handschriften der Preussischen Staatsbibliothek*, I: *Die Phillipps-Handschriften* (Leipzig, 1926), 16; L. Cohn, 'Bemerkungen zu den konstantinischen Sammelwerken', *BZ* 9 (1900), 158–60; P. Lemerle, *Le premier humanisme byzantin* (Paris, 1971), 296.

²⁷ Irigoín, 'Pour une étude', 180.

²⁸ Missing folia are listed in CHG II pp. xiv–xv.

²⁹ On the contrast between the medieval style of bands of decoration in the text of another imperial MS of the 10th c., Paris. gr. 139, and the Late Antique style of the borders of the miniatures, see M. A. Frantz, 'Byzantine Illuminated Ornament: A Study in Chronology', *Art Bulletin*, 16 (1934), 74–5.

³⁰ K. Weitzmann, *Die byzantinische Buchmalerei des 9. und 10. Jahrhunderts* (Berlin, 1935), 16–18 and plates xix–xxi.

³¹ Similar letter-forms appear in the headings of Lond. Add. 28815 (mid-10th c.), and the inscription on the ivory staurothèque of Nicephorus Phocas in the monastery of St Francis at Cortona.

letters at the start of excerpts extend into the margins; they are coloured, often outlined in gold, with foliate, beaded, or zoomorphic decoration.³² The hand of the main text is a large, curlicued minuscule with some uncial letters—the so-called ‘minuscule bouletée’, used for a number of other luxury manuscripts of the tenth century.³³ The table of contents, and a recipe at the end of the manuscript, are in purple-red ink, in a script resembling Coptic uncial (Pl. 5). On the first parchment leaf are painted two birds: the first, on the recto, with short tail, brown back, pink breast, and green beak; and the second on the verso, with brown back and blue-green breast and feet. The presence of these birds led W. Studemund and L. Cohn to suggest that an *Orneosophion* or treatise on the care of falcons figured originally in Phillippus 1538, as it does in three later copies of the text.³⁴ The manuscript is in a modern binding covered with purple and gold cut velvet.

There are a few later annotations. On fo. 33^r ὥρ(αῖον) καὶ χρ(ήσιμον) has been added in the margin in a large, curlicued script. Asterisks in black ink mark several titles in what survives of the table of contents. On 331^v, a short and colloquial description of what to look for in the conformation of the horse is added in a hand of the twelfth century.³⁵ Some of the chapter-headings are transliterated in minuscule in the margins; these notes are cut where the edges of the pages have been trimmed. An excerpt from the M recension is added in the lower margin of fo. 2^r, in a hand of the sixteenth century.³⁶ That no early copies appear to have been made from Phillippus 1538

³² They are compared by Weitzmann, *Die Byzantinische Buchmalerei*, 17, to initials in other manuscripts of the 10th c.

³³ J. Irigoin, ‘Une écriture du X^e siècle: la minuscule bouletée’, in *La paléographie grecque et byzantine* (Paris, 1977), 191–8. It has been noted that the hand of Phillippus 1538 is identical to those of Barb. gr. 310, a smaller manuscript (130×160 mm, one quarter the size of B) containing a collection of anacreontic verse: N. G. Wilson, *Scholars of Byzantium*, 2nd edn. (London, 1996), 143. Among the poems listed in the index of that MS is one (now lost) that may be the same as Symeon Metaphrastes’ ethopoeia on the death of Leo VI: see I. Ševčenko, ‘Poems on the Death of Leo VI and Constantine VII in the Madrid Manuscript of Scylitzes’, *DOP* 23–4 (1969–70), 199—a further association with the imperial court of the 10th c.

³⁴ Studemund and Cohn, *Verzeichniss der griechischen HSS*, 56–7. The suggestion was repeated by Oder and Hoppe (*CHG* II p. xv), who assumed that the *Orneosophion* would have been the same as the one dedicated to an emperor Michael which is present in three later manuscripts of the B recension (PbO). Oder and Hoppe identified the emperor as Michael II (820–9) or Michael III (842–67), and on this rather flimsy basis attributed Phill. 1538 to the 9th c.: *CHG* I p. vi; *CHG* II p. xv.

³⁵ Δεῖ ταῦτα ἔχειν τὸν ἵππον· μακρὸν τράχηλον, μακρὸν κορμὴν καὶ μακροὺς πόδας, φαρδὺ στήθος, φαρδέα ἀναπνευστικά, καὶ φαρδεῖς ἄρμους, πλατὺν ἀντικέφαλον, πλατὺ μέτωπον, καὶ πλατέα νεφρά, κοντὰ νεφρά, κοντὰ κοντοπλεύρια, καὶ κοντοὺς δακτύλους; *CHG* I p. 375 apparatus; *CHG* II p. xvi.

³⁶ M1, printed as B1.2, *CHG* I p. 1. It could have been added from Par. gr. 2322 between 1594 and 1603, when the royal library was brought from Fontainebleau to Paris and kept at the Collège de Clermont; see Delisle, *Le Cabinet des manuscrits*, 194–5.

itself supports the view that B was a dedication copy that remained in the imperial library.³⁷ Cohn suggested that B might be identified with manuscript no. 22 in the late sixteenth-century inventory of the library of Michael Cantacuzenus in cod. Vind. hist. gr. 98.³⁸ It appears in the list after a work attributed to Oribasius:³⁹

τοῦ αὐτοῦ Ὀριβασίου τοῦ ἱατροσοφιστοῦ πρὸς Κωνσταντῖνον τὸν βασιλέα τὸν πορφυρογέννητον, υἱὸν Λέοντος τοῦ σοφοῦ, ἱππιατρικά. καὶ τὸ χαρτὶ ἔνε κόλλαις βεβραῖνας [sic].

By the same Oribasius the iatrosophist, [dedicated] to the Emperor Constantine Porphyrogenitus, son of Leo the Wise, *Hippiatrica*. And the paper is quires of parchment.

The first recorded appearance of B is in the catalogue prepared for the sale of the library of the Collège de Clermont in Paris, confiscated following the suppression of the Jesuit order in 1763; the manuscript is described as already mutilated.⁴⁰ A signature in the left margin of fo. 2^r records this confiscation (Pl. 3).⁴¹ How and when the manuscript found its way from Constantinople to the Jesuit College is unclear. Most of the Greek manuscripts of the Collège de Clermont came from the collection of Guillaume Pellicier (c.1490–1567), bishop of Montpellier and ambassador of François I to Venice between 1539 and 1542.⁴² While dispensing vast sums in acquiring manuscripts for the French king, and also in ordering specimens of trees and plants from Crete, Syria, and Alexandria,⁴³ Pellicier at the same time collected and had

³⁷ Cf. Irigoin, 'Pour une étude des centres de copie', 179–80.

³⁸ 'Bemerkungen', 160; cf. Costomiris, 'Études sur les écrits inédits des anciens médecins grecs', 67–8.

³⁹ R. Foerster, *De antiquitatibus et libris manuscriptis Constantinopolitanis* (Rostock, 1877), 27. Another possibility is no. 28 in the same inventory, written 'on quires of silk'; the title reflects its placement in a series of items attributed to Galen: τοῦ αὐτοῦ Γαληνοῦ περὶ Ἀψύρτου καὶ ἵππων καὶ τῆς τοιοῦτων ἐπιγνώσεως, καὶ τὸ χαρτὶ ἔνε κόλλαις μεταξωταῖς; Foerster, 27. An Ἀψύρτου ἱατροσόφιον was in the library at Rodosto, *ibid.* 31. On the library catalogues, see G. K. Papazoglou, *Βιβλιοθήκες στήν Κωνσταντινούπολη τοῦ 15^{ου} αἰῶνα* (κωδ. Vind. hist. gr. 98) (Thessaloniki, 1983).

⁴⁰ *Catalogus manuscriptorum codicum collegii Claromontani* (Paris, 1764), 112, no. 344, 'paucis tamen avulsis capitum titulis et ornamentis'.

⁴¹ 'Paraphé au désir de l'arrest du 5e juillet 1763. Mesnil'.

⁴² Studemund and Cohn, *Verzeichniss der Griechischen HSS*, pp. 1–xxxvi, on B, p. xxv.

⁴³ H. Omont, *Catalogue des manuscrits grecs de Guillaume Pellicier* (sic), évêque de Montpellier, ambassadeur de François I^{er} à Venise (Paris, 1886), repr. from *Bibliothèque de l'École des Chartes* 46 (1885), 45–83 and 594–624. In a letter to Pierre Duchatel, the royal librarian, dated 8 Oct. 1540, Pellicier implies that he has seen and would like to acquire 220 manuscripts which were in the hands of one man (Antonios Eparchos), and appeared to represent 'le garderobbe et despouille de toute la librairie des empereurs Paleologues'; Omont, 71. Could B have been among these? It does not figure in the 1538 catalogue of Eparchos' books, though Par. gr. 1995 does. See Omont, 'Catalogue des manuscrits grecs d'Antoine Éparque', *Bibliothèque de l'École des*

manuscripts copied for himself.⁴⁴ A catalogue of his library datable to the late sixteenth century⁴⁵ lists three manuscripts of hippiatric texts, but the precision with which the titles of the manuscripts are transcribed permits these manuscripts to be identified as Parisinus gr. 1995 (no. 65), Phillipps 1539 (no. 73), and Parisinus gr. 2244 (no. 165).⁴⁶ The books of the College of Clermont were never auctioned, but were purchased virtually *en bloc* by the Dutch jurist and bibliophile Gerard Meerman (1722–71). Upon the death of Meerman's son, the collection was put up for auction⁴⁷ and B was acquired, along with many other manuscripts, by Sir Thomas Phillipps (1792–1872), the self-professed 'vello-maniac' who has been called 'the greatest collector of manuscript matter the world has ever known',⁴⁸ Phillipps's renowned library, kept first at Middlehill and later at Cheltenham, was dispersed over a long period after his death; B was sold in 1887, together with all the Meerman manuscripts, by private contract to the German government, and entered the collection of the then Royal Library in Berlin.⁴⁹

The text of B differs from that in M most obviously in its organization. Instead of being numbered straight through, the excerpts are divided into some 130 chapters, identified in their titles as κεφάλαια, which correspond to different subjects, so that for example under the heading 'On fever', *περὶ πυρετοῦ*, are listed all the passages on fever. The order of subjects has also been altered: B begins with chapters on the grave diseases, continues with ailments of the horse more or less from head to foot, disorders which require surgery, then bites, stings, and other accidental wounds, and concludes with recipes for different types of drugs. The numbers of three chapters, 63, 83, and

Chartes, 53 (1892), 13, no. 64. And if indeed B is one of the manuscripts in the Cantacuzenus inventory, it was still in the East at the time that Pellicier was in Venice.

⁴⁴ A. Palau, 'Les copistes de Guillaume Pellicier, évêque de Montpellier (1490–1567)', *Scrittura e Civiltà*, 10 (1986), 199–237.

⁴⁵ Parisinus gr. 3068, ed. by Omont, *Catalogue des manuscrits grecs de Guillaume Pelicier*, 30–1 and 45; the catalogue republished in idem, *Catalogues des manuscrits grecs de Fontainebleau sous François Ier et Henri II* (Paris, 1889), 393–427. See also A. Cataldi Palau, 'Les vicissitudes de la collection de manuscrits grecs de Guillaume Pellicier', *Scriptorium*, 40 (1986), 32–53; and ibid. 40, on the dating of Par. gr. 3068, and a copy of the same catalogue in Par. gr. 3064.

⁴⁶ Omont (*Catalogues des manuscrits grecs de Fontainebleau*, 404) believed that no. 65 was Phill. 1538; the title, however, corresponds to that of the *Epitome*, as pointed out by Studemund and Cohn, *Verzeichniss der griechischen HSS*, p. xiii, n. 3.

⁴⁷ *Bibliothecae Meermanniana; sive Catalogus librorum impressorum et codicum manuscritorum, quos maximam partem collegerunt viri nobilissimi Gerardus et Joannes Meerman; morte dereliquit Joannes Meerman . . . quorum publica fiet auctio die VIII sqq. Junii, anni MDCCCXXIV Hagae Comitum* (The Hague, 1924); B is no. 234, vol. IV, 36.

⁴⁸ S. de Ricci, *English Collectors of Books and Manuscripts (1530–1930) and their Marks of Ownership* (Cambridge, 1930), 119. See also A. N. L. Munby, *The Phillipps Manuscripts* (London, 1968), 18.

⁴⁹ See de Ricci, *English Collectors*, 127.

95, do not appear in B. That these omissions represent chapters omitted from Phillipps 1538 rather than simply skipped numbers is revealed by the fact that the text of these chapters figures in the C and L recensions.⁵⁰ Within the chapters of B, the order in which excerpts are presented is changed. While Apsyrtus remains in first place, Hierocles now follows immediately after him, with excerpts from other authors appended in no consistent order.

The B recension contains most of the excerpts in M, with several additions and subtractions. First, to the seven principal authors—Apsyrtus, Anatolius, Eumelus, Theomnestus, Hippocrates, Hierocles, and Pelagonius—are added two new sources: these consist of a set of anonymous *προγνώσεις καὶ ἰάσεις* ('diagnoses and cures'), and excerpts from the veterinary treatise of Tiberius. An excerpt from Dioscorides is also present.⁵¹ Next, a far greater amount of Hierocles' text is present, including the rhetorical prooimion of the two books of his treatise. All passages of a magical or poetic nature present in M are omitted from B. Recipes for drugs are gathered at the end of the compilation into chapters entitled *περὶ ἐγχυματισμῶν σκευασίας* (on the composition of drenches, i.e. liquid medications administered through the mouth or nose) and *περὶ μαλαγμάτων* (on ointments).⁵² Tables showing equivalents in different systems of weights and measures are appended to the veterinary excerpts; some of these metrological texts correspond to titles listed in the *pinax* of M.⁵³ Also present, at the very end of the manuscript, is an elaborate recipe for a warming ointment (*ἀλοιφή θερμή*) which includes imported *materia medica* such as ambergris, aloeswood, and galangal, introduced only in the medieval period (Pl. 5).⁵⁴ The text of B has also been subjected throughout to editing: we shall return to this phenomenon later.

OTHER MANUSCRIPTS OF THE B RECENSION

Nine more recent manuscripts contain the text of the B recension. One of these, Vaticanus Urbinas gr. 80, fos. 267^r–279^r, is a partial copy, containing only the

⁵⁰ B63 must have been *περὶ ἄσθματος* = C51 which appears between C50 *περὶ ἀρτηρίας ἐλκωθείσης* = B62 and C52 *περὶ τῶν ὁδοῦ καυσομένων* = B64. Similarly, B83 may be restored as *περὶ θρόμβων*, and B96 as *περὶ κεντρίτιδος*; see CHG II p. xxv. As noted by Björck, the tables of contents of P, b, a, K, l, and N contain the titles of the three excerpts not copied in B, 'Apsyrtus, Julius Africanus', 51. O lacks a table of contents.

⁵¹ B69.24, CHG I p. 276; cf. M1215 (preserved only in the *pinax*).

⁵² B129 and 130, CHG I pp. 385–400 and 400–39.

⁵³ Appendices 1–6, CHG I pp. 440–6; Hultsch, *Metrologicorum scriptorum reliquiae*, 129–31 and 225–57.

⁵⁴ B Appendices 7–8, CHG I pp. 446–9.

first chapter and part of the second,⁵⁵ in the hand of Ioannes Chortasmenos (c.1370–1436/7); it is bound in a miscellaneous volume (287 by 202 mm, 279 folia) together with excerpts from Theon, Ptolemy, Theodore Metochites, Libanius, Plato, and documents relating to the patriarchate of Constantinople copied by Chortasmenos and others.⁵⁶ The excerpt from the *Hippiatrica* is on two ‘artificial’ quires of nine and four folios, whose paper has the same watermark as that of a manuscript dated 1404.⁵⁷ The large, rounded script (Pl. 6) which, according to P. Canart and G. Prato, represents an early phase of Chortasmenos’ hand, is to be assigned probably to the period before 1410.⁵⁸ The manuscript has been damaged by water at its upper edge so that a quarter of each page is stained. The interest of U lies not so much in the incomplete text as in its distinguished copyist:⁵⁹ Chortasmenos (later in life Metropolitan Ignatius of Selymbria) was notary of the patriarchal chancery at Constantinople, a copyist and book-collector whose interest in manuscripts and the identification of handwriting has led him to be described as ‘avant la lettre, un codicologue et un paléographe’.⁶⁰ Copies in his hand of what one might call ‘scientific’ texts attest to a fascination with geography, medicine, mathematics, and especially astronomy.⁶¹ Chortasmenos had access to old and precious books: he is well known for rebinding the Vienna Dioscorides (Vindobonensis medicus gr. 1) in 1406—and perhaps notorious for adding his transcription in minuscule of the uncial text in the blank spaces of the beautiful sixth-century manuscript. It has been suggested that the model from which he copied this excerpt from the *Hippiatrica* was Phillipps 1538.⁶² Indeed, it is tempting to think that the transcriptions in minuscule of chapter-headings which appear in the margins of the Berlin manuscript might be in Chortasmenos’ hand (Pl. 3 top margin; Pl. 4, top and right margin).⁶³ U belonged to

⁵⁵ B1–B2.20, *CHG* I pp. 1–24, l. 15 breaking off mid-sentence after κράμβας καὶ.

⁵⁶ C. Stornajolo, *Codices Urbinates Graeci Bibliothecae Vaticanae* (Rome, 1985), 111–27; a detailed analysis of the manuscript in P. Canart and G. Prato, ‘Les recueils organisés par Jean Chortasmenos et le problème de ses autographes’, in H. Hunger (ed.), *Studien zum Patriarchatsregister von Konstantinopel*, I (Vienna, 1981), 115–78.

⁵⁷ Canart and Prato, ‘Les recueils’, 137; D. and J. Harlfinger, *Wasserzeichen aus griechischen Handschriften* (Berlin, 1974), ‘Ciseaux 7’.

⁵⁸ Canart and Prato, ‘Les recueils’, 152.

⁵⁹ H. Hunger, *Johannes Chortasmenos (ca. 1370–ca. 1436/7): Briefe, Gedichte, und kleine Schriften. Einleitung, Regesten, Prosopographie, Text* (Wiener Byzantinische Studien, 7; Vienna, 1969); Gamillscheg and Harlfinger, *Repertorium der griechischen Kopisten*, 3A, 125, no. 315.

⁶⁰ Canart and Prato, ‘Les recueils’, 178.

⁶¹ Hunger, *Johannes Chortasmenos*, 40–2; I. Ševčenko, *Études sur la polémique entre Théodore Métochite et Nicéphore Choumnos* (Brussels, 1962), 43–4 and 281–2.

⁶² Canart and Prato, ‘Les recueils’, 145 n. 74.

⁶³ The marginalia in B are very brief (unfortunately for the purpose of their identification, but fortunately for the appearance of the manuscript), so although the hand is not unlike that of Chortasmenos, it is impossible to be certain. I am grateful to Mr Nigel Wilson for examining them.

Federigo, duke of Urbino (d. 1482), whose arms adorn the index page; after the death of the last duke of Urbino, the family's library entered the Vatican library in 1657 under Pope Alexander VII.⁶⁴

Apart from U, all later manuscripts of the B recension are copies of the entire compilation; all of them are derived from Phillipps 1538. E. Oder and C. Hoppe, who knew only five (P, b, O, l, and N), noted that they incorporate into the main text the short passage describing the points of the horse which is written in a later hand in the margin of fo. 331^r of Phillipps 1538.⁶⁵ A.-M. Doyen-Higuet has observed that the same is true for a, c, K, and L. Other instances noted by Oder and Hoppe in which the *editio princeps* differs from B have been identified by Doyen-Higuet as characteristics common to all the later manuscripts:⁶⁶ several excerpts whose text is incompletely copied in Phillipps 1538 are omitted altogether in the others;⁶⁷ the text on a displaced folio in B appears in the same incorrect location in all the later copies;⁶⁸ and the later copies all contain two other misplaced passages.⁶⁹ A shared innovation is the addition of short prescriptions for hellebore to be inserted into the skin as a cure for various maladies.⁷⁰ These later manuscripts have a different set of metrological tables from the ones in B: one attributed to Diodorus (ἔκθεσις Διοδώρου περὶ μέτρων καὶ σταθμῶν), another described as 'most accurate' (ἔκθεσις περὶ μέτρων καὶ σταθμῶν ἀκριβεστάτη), and one on liquid measures (περὶ μέτρων ὑγρῶν). In all but ON, these tables are placed before the text, instead of after it as in B. In several copies (PbONac), the prooimion of Hierocles' second book⁷¹ is labelled as though it indicated a division of the compilation into two sections—in B, no division is indicated, and the prooimion is only preceded by a narrow band of decoration rather than an elaborate *pyle*. But the later representatives of B have their origin in a copy made before Phillipps 1538 was damaged by the cutting out of many of the decorated headpieces, and their evidence is thus essential for restoring the complete text of the B recension.

Three manuscripts, P, b, and O, contain the full text as it appears in B, up to B130.209, including the recipe for the ἀλοιφή θερμή at the end, and another

⁶⁴ J. Bignami-Odier, *La Bibliothèque Vaticane de Sixte IV à Pie XI: Recherches sur l'histoire des collections des manuscrits* (Studi e Testi, 272; Vatican City, 1973), 141; ead., 'Guide au Département des manuscrits de la Bibliothèque du Vatican', *Mélanges d'archéologie et d'histoire*, 50–1 (1933–4), 215–16.

⁶⁵ CHG I p. 375 apparatus, CHG II p. xvi.

⁶⁶ 'Un manuel grec', I, 17–23.

⁶⁷ B5.5, CHG I p. 42; B85.1, CHG I p. 306; B113.3, CHG I p. 371.

⁶⁸ B85.6–7, CHG I pp. 307, l. 16–308, l. 2.

⁶⁹ CHG I p. 318, apparatus; CHG I p. 44, apparatus.

⁷⁰ CHG I p. 62, apparatus; CHG I p. 384, apparatus.

⁷¹ B59.2, CHG I p. 248.

recipe for *κουδριγάρια κόνις* or ‘charioteer’s powder’.⁷² After these follows a note recommending the use of hellebore inserted in a piercing in the skin as a treatment for epilepsy.⁷³ O is damaged at the beginning, but P and b are prefaced with the three metrological passages. P, b, and O share another feature: the text of the *Hippitrica* is followed by an *Orneosophion*, or manual on the selection and care of birds of prey, whose title indicates that it was ‘made at the command of the renowned emperor lord Michael’ (κελεύσει γεγονός τοῦ αἰοιδίμου βασιλέως κυρίου Μιχαήλ).⁷⁴ These manuscripts appear to have been produced within a fairly short period of time in Venice and Crete (then a Venetian possession), by professional Greek scribes, for French and Italian patrons; the same phenomenon has been observed in the transmission of the text of Thucydides.⁷⁵

Parisinus gr. 2245, or ‘P’ (287 by 202 mm, 138 folia), is signed at the end of the text by Antonios Damilas (Δαμιλᾶς), a native of Crete whose family was originally from Milan.⁷⁶ Damilas was active as a notary in Candia in the third quarter of the fifteenth century; he worked as a copyist along with Michael Apostolis and the latter’s son Aristoboulos.⁷⁷ The paper on which the text is copied has watermarks of the 1430s–1470s.⁷⁸ The manuscript is inscribed with the ex-libris and shelfmark of Gian Francesco d’Asola (1498–1557/8), brother-in-law of Aldus Manutius.⁷⁹ D’Asola was given an introduction to

⁷² CHG I pp. 448–9. The recipe, which consists of the same quantity (1½ oz) of 87 ingredients, listed in alphabetical order from alpha to kappa, was identified by Oder and Hoppe as a joke.

⁷³ CHG I p. 450.

⁷⁴ Ed. R. Hercher, *Cl. Aeliani De natura animalium* ... (Leipzig, 1866), vol. II, 575–84. The date of the *Orneosophion* is unclear; it is different from the 15th-c. text attributed to Demetrius Pepagomenos, ed. Hercher, *ibid.* 333–516, on which see A. Diller, ‘Demetrius Pepagomenus’, *Byzantion*, 48 (1978), 35–42.

⁷⁵ See J. E. Powell, ‘The Cretan Manuscripts of Thucydides’, *CQ*, 32 (1938), 103–8.

⁷⁶ Fo. 138^r: Ἀντώνιος Δαμιλᾶς κ(αὶ) τοῦτο ἐξέγραψεν. Antonius was brother of the copyist Demetrius who designed the typeface for the *Erotemata* of Constantine Lascaris, the first book to be printed in Greek (Milan, 1476); see P. Canart, ‘Démétrius Damilas, alias le “librarian florentinus”’, *Rivista di studi bizantini e neoellenici*, ns 14–16 (xxiv–xxvi), 281–347.

⁷⁷ Omont, *Inventaire sommaire des manuscrits grecs*, vol. II, 221; M. Vogel and V. Gardthausen, *Die griechischen Schreiber des Mittelalters und der Renaissance* (Leipzig, 1909), 32–4; Gamillscheg and Harlfinger, *Repertorium der griechischen Kopisten* 1A (Vienna, 1981), 37–8, no. 22; 2A (Vienna, 1989), 35–6, no. 30; M. Wittek, ‘Pour une étude du scriptorium de Michel Apostolès et consorts’, *Scriptorium*, 7 (1953), 290–1; Powell, ‘The Cretan Manuscripts’, 105, 107. Also S. P. Lampros, ‘Ὁ ἀρχαιότατος κεχρονισμένος κώδιξ τοῦ Ἀντωνίου Δαμιλᾶ, Νέος Ἑλληνομνήμων’, 12 (1915), 480.

⁷⁸ A. Cataldi Palau, *Gian Francesco d’Asola e le tipografie Aldine: La vita, le edizioni, e la biblioteca dell’Asolano* (Genoa, 1998), 514; C. M. Briquet, *Les Filigranes* (Geneva, 1907), ‘Ciseaux de tôle’ 3756 (1450, 1470); Briquet, ‘Lettre R’ 8946 (1451) and Harlfinger, ‘Lettre 37’ (1431); Briquet, ‘Monts’ 11662 (1432).

⁷⁹ On the verso of the 6th flyleaf, ‘xxxvii’ ‘A me Io(anne) Francisco Asulano’; cf. Cataldi-Palau, *Gian Francesco d’Asola*, 9. D’Asola owned another manuscript copied by Damilas, and three others from the scriptorium of Michael Apostolis: see Cataldi-Palau, 511.

François I by Guillaume Pellicier in 1542; his books entered the royal collections not long afterward.⁸⁰ The blue binding of P bears the arms of Henri II of France; a note in the hand of the Cretan calligrapher Ange Vergèce (Ἄγγελος Βεργίκιος)⁸¹ indicates that it was part of the library at Fontainebleau; the manuscript also figures in Vergèce's 1545 inventory of that library.⁸² The beginning of the manuscript appears to have been damaged: the text begins in Damilas's hand mid-stream on fo. 4^r (B1.4; B1.1–3 are copied by a different hand).

Phillipps 1539, Berolinensis 135, or 'b' (330 by 250 mm, 173 folia, with a binding of unlined white parchment), was copied by the Greek émigré Nikolaos Kokolos (Κόκολος),⁸³ who, along with his brother Georgios, was part of the scriptorium of Guillaume Pellicier. Pellicier's copyists, numbering at one point up to twelve, produced some 141 manuscripts between 1539 and 1542.⁸⁴ Nicholas copied sixteen manuscripts for Pellicier: of these, two are dated, to 1540 and 1541 respectively; their watermarks are similar to those of Phillips 1539.⁸⁵ Cohn has suggested that b is an apograph of P;⁸⁶ certainly Pellicier might have had a copy made of d'Asola's manuscript.⁸⁷ (Would he have done so if he also possessed B at the time?) The manuscript shared the fate of most Pellicier's library:⁸⁸ after the bishop's death in 1567, it was inventoried by a friend of his, the notary Claude Naulot Duval of Autun, who inscribed his name in the book in 1573 in Greek, Latin, and French.⁸⁹ From Naulot, b passed to the library of the Collège de Clermont; a note on the verso of the third flyleaf, listing the contents of the manuscript in Greek and in Latin, may be in the hand of Jacques Sirmond (1559–1651), librarian

⁸⁰ Cataldi-Palau, *Gian Francesco d'Asola*, 386–7.

⁸¹ Gamillscheg and Harlfinger, *Repertorium*, IA, 25, no. 3.

⁸² Cataldi-Palau, *Gian Francesco d'Asola*, 387; Miller, 'Notice sur le manuscrit grec No. 2322', 7; H. Omont, *Catalogue des manuscrits grecs de Fontainebleau*, 103.

⁸³ Gamillscheg and Harlfinger, *Repertorium*, IA, 162, no. 310; IIA, 159, no. 429.

⁸⁴ Palau, 'Les copistes de Guillaume Pellicier', 199 ff. Pellicier's letter of 19 Aug. 1530 to François I asking for money for the copyists, and explaining the plight of the Greek refugees, is quoted in Omont, 'Catalogue des manuscrits grecs de Guillaume Pellicier', 7–9.

⁸⁵ They are Phill. 1625 (1540): Harlfinger, 'Ancre' 51; Phill. 6767 (1541): Harlfinger, 'Flèche' 24. See Palau, 'Les copistes de Guillaume Pellicier', 208–9, 223, and 227, table V.

⁸⁶ Studemund and Cohn, *Verzeichniss der Griechischen HSS*, 56–7; CHG II p. xvi, Vogel and Gardthausen, *Die griechischen Schreiber*, 349 (where the MS is erroneously assigned the date of 1539).

⁸⁷ On having new copies made when old manuscripts could not be acquired, see J. Irigoin, 'Les ambassadeurs à Venise et le commerce des manuscrits grecs dans les années 1540–1550', in H.-G. Beck, M. Manoussacas, and A. Pertusi (eds.), *Venezia centro di mediazione tra oriente e occidente (secoli XV–XVI), aspetti e problemi* (Florence, 1977), 400 ff.

⁸⁸ See Cataldi Palau, 'Les vicissitudes de la collection de manuscrits grecs de Guillaume Pellicier'. Phillipps 1539 figures in the inventory of Pellicier's books in Par. gr. 3068, fo. 11^v; Omont, 'Catalogue des manuscrits grecs de Guillaume Pellicier', 30–1, no. 73.

⁸⁹ On the recto of the third flyleaf: ἀνέγνωκεν ὁ Ναυλώτ τόδε. 1573. On fo. 173^v: Κλαύδιος ὁ Ναυλώτιος κοιλαδεὺς Αὐαλλωναῖος, Cláudius Naulótius Vallénsis Auallonaëus, Claude Naulot du Val Auallonnois, 1573, Ἀνέγνωκεν τὸ βιβλίον τοῦτο, Hunc Legéndo agnóvit Librum: ha Lëu et recognu ce Liure. τῷ θεῷ χάρις.

of the college.⁹⁰ The manuscript is marked with the signature recording its confiscation after the dissolution of the Jesuit college in 1763,⁹¹ and appears in the catalogue prepared for the sale of the library.⁹² It was acquired by Meerman along with B and most of the other Pellicier manuscripts, and subsequently by Sir Thomas Phillipps, and by the German government for the Royal Library in Berlin.⁹³

Oxford, Barocci 164, or 'O' (270–3 × 204–7 mm, 165 folia), known to Oder and Hoppe but not used in their edition, belongs to this group as well. The copyist of O has been identified by J. Wiesner as Petros Daklozaos (Δακλώζαος) of Rethymnon, who was active in the second half of the sixteenth century, and copied five other manuscripts for the Veneto-Cretan mathematician and sorcerer Francesco Barozzi (1537–1604).⁹⁴ The paper, watermarked with the winged and haloed lion of St Mark, is Venetian;⁹⁵ while the fine red leather Cretan binding (which is coming apart from the pages) resembles the bindings of other manuscripts from Barozzi's collection. No pages appear to be missing from the beginning of the manuscript, yet the text begins mid-stream in the same place as Parisinus gr. 2245,⁹⁶ which suggests that O was copied from P. O features in the 1617 catalogue of the Barozzi library.⁹⁷ Francesco's manuscripts, inherited by his nephew Iacopo, were brought to England by the bookseller Henry Featherstone in 1628, and deposited with Archbishop William Laud. At Laud's encouragement, the collection was purchased by William Herbert, third earl of Pembroke,

⁹⁰ Cf. Cataldi Palau, 'Les vicissitudes', 34. A square brown paper label on the spine bears the shelfmark of the Jesuit College, MG 186.

⁹¹ Fo. 2^v: 'Paraphé au désir de l'arrest du 5 juillet 1763. Mesnil'

⁹² *Catalogus manuscriptorum codicum collegii Claromontani*, 112, no. 345.

⁹³ *Bibliotheca Meermanniana*, vol. IV, 36, no. 235.

⁹⁴ H. O. Coxe, *Bodleian Library Quarto Catalogues*, I: *Greek Manuscripts* (Oxford, 1853; repr. 1969), 278; the manuscript is attributed to the 15th c. A few of the Barozzi MSS, kept by the earl of Pembroke, were purchased after his death and given to the Bodleian by Oliver Cromwell in 1654; however, O must have been part of the initial donation which consisted of MSS Barocci 1–246: de Ricci, *English Collectors*, 22. For seven Barozzi manuscripts attributed to Daklozaos, see J. Wiesner, rev. of D. Harlfinger, *Specimina griechischer Kopisten der Renaissance*, I: *Griechen des 15. Jahrhunderts*, in *Gymnasium*, 85 (1978), 484 n. 6. See also Vogel and Gardthausen, *Die griechischen Schreiber*, 383; Gamillscheg and Harlfinger, 2A, 172, no. 472 (neither attributing O to Daklozaos). On Barozzi, see *Dizionario Biografico degli Italiani*, VI (Rome, 1964), 495–9; B. Boncompagni, 'Intorno alla vita ed ai lavori di Francesco Barozzi', *Bullettino di Bibliografia e di Storia delle scienze matematiche e fisiche*, 17 (1884), 795–848.

⁹⁵ F. de Bofarull y Sans, *Animals in Watermarks* (Hilversum, 1959), 20 and no. 192. The other watermark is a crown with a star, cf. Harlfinger, 'Couronne' 25 (1561–62) and 26 (1575); Briquet, 'Couronne' 4834 (1551–6) and 4835 (1561).

⁹⁶ B1.4, CHG I p. 2 τὰ μὲν οὖν παρεπόμμενα ταῦτα.

⁹⁷ *Indice de libri greci antichissimi scritti a penna che si trovano nella Libreria che fù del Q. Illustriss. Sig. Giacomo Barocci, Nobile Veneto* (Venice, 1617), 18^v no. 53.

chancellor of the University of Oxford, and donated to the Bodleian Library in 1629.⁹⁸

Another family is made up of the manuscripts lKac, whose text ends just before the end of the B recension, after B130.184.⁹⁹ In all these, as in PbO, the metrological tables are placed before the text instead of after it. This group is related to the circle of Janus Lascaris in Florence and in Rome. Lascaris may have had a hand both in the copying of the text and in its appearance in printed form; as we shall see later, the first Latin and Greek editions are related to this family. Finally, N contains elements derived from both branches of the B recension.

The earliest of this group, and the only one of medieval date, is Laurentianus Pluteus 75. 6, or 'I' (190 by 270 mm).¹⁰⁰ The *Hippiatrica* occupies fos. 124^r–247^v, and is copied on paper whose watermark belongs to the late fourteenth or early fifteenth century.¹⁰¹ The red binding of the Medici library is missing several metal bosses and coming apart from the pages, but still has its chain attached. The manuscript is made up of several texts: the first two are a medical treatise dedicated to an emperor Constantine, and military treatises attributed to Leo VI. These items appear in Janus Lascaris' autograph list, in Vaticanus gr. 1412, of books purchased on the island of Corfu in 1491:¹⁰² the *Hippiatrica*, which begins in the middle of a quire, and is in the same hand as the end of the military handbook, clearly has always been part of the same volume.¹⁰³ Lascaris' patron Lorenzo de' Medici was passionate about horses and horse-racing: his horses won *palii* in Florence in 1478 and 1481 and in Arezzo in 1483; he acquired horses from Naples, Sicily, and North Africa in the 1470s and 1480s; in 1487 the classical scholar Angelo Ambrogini

⁹⁸ F. Madan and H. H. E. Craster, *A Summary Catalogue of Western Manuscripts in the Bodleian Library of Oxford*, II pt. 1 (Oxford, 1922), 3.

⁹⁹ CHG I p. 436.

¹⁰⁰ A. M. Bandini, *Catalogus Codicum Graecorum Bibliothecae Laurentianae*, III (Florence, 1770; repr. Berlin, 1961), cols. 147–51.

¹⁰¹ Two circles connected by a line with a cross at the end; cf. Briquet, 'Cercle' 3158–95, of the mid–late 14th and early 15th c.; D. and J. Harlfinger, 'Cercle' 12, 13, 15, 16, 21, 31, of similar date.

¹⁰² Fo. 48^v; Müller, 'Neue Mittheilungen über Janos Laskaris', 380. Another entry in the list of books purchased in Corfu, γεωπονικὸν καὶ περὶ ἵππων πυρετοῦ (fo. 56^r; Müller, 390), is to be identified with Par. gr. 1994, in which a text on horse medicine, probably the *Epitome* of the *Hippiatrica* appears in the table of contents as book 21 of the *Geoponica*; the text is not, however, present in the manuscript. Par. gr. 1994 is marked on the first flyleaf, in Devaris' hand, 'No. 5 quinta'. Doyen-Higuet notes that two other MSS of the *Geoponica*, Par. gr. 1994, Naples, Borb. III. d. 24 and Naples, Borb. III. d. 25 also list a text on horse medicine in the table of contents; the text, however, is not present. 'Un manuel grec, I, 80–1'.

¹⁰³ D. F. Jackson, 'Janus Lascaris on the Island of Corfu in AD 1491', *Scriptorium*, 57 (2003), 137.

(Politian) wrote a poem in Latin on one of Lorenzo's Barb racehorses;¹⁰⁴ and in a letter of 1490 to his stable manager, Lorenzo discusses the medical treatment of one of the horses.¹⁰⁵ It is hardly surprising in this context that books on horse-medicine should have figured among Janus' acquisitions. But marginal notes and underlinings in the manuscript seem to represent the interests of a humanist rather than those of a horse-doctor.¹⁰⁶

The manuscript does not appear in the 1495 inventory of the Medici library compiled during the family's exile from Florence; it does, however, appear as no. 318 in Vigili's inventory of 1508 (Vaticanus Barb. lat. 3185).¹⁰⁷ and in the inventory in Hannover, K. Bibliothek XLII, 1845. The last list is entitled 'Auctores graeci: quos impensis Laurentii Medicis Lascaris ex peloponneso in Italiam nuper advexit', and has been identified by D. F. Jackson as a list of the new Greek texts and authors introduced to Italy by Janus Lascaris.¹⁰⁸ In this list, the *Hippiatrica* appears simply as a list of authors, more or less recognizable as the principal sources of the compilation and some minor contributors: 'Absyrtus, Hierocles, Theomnestus, Pelagonius, Anatolius, Tiberius, Eumnonos, Archidemus, Hippocrates, Aemilius hispanus, Clitorius, Beneventanus, Himerius: Omnes de morbis equorum & remediis eorum' (*sic*).¹⁰⁹ This selection of names duplicates the list of authors added in two later hands to Laurentianus Plut. 75. 6 in the lower margin of fo. 124^r: Ἀψύρτου Ἱεροκλέους Θεομνήστου Πελαγωνίου Ανατολίου Τιβερίου Εὐμήλου Ἀρχεδήμου Ἱπποκράτους Ἡμερίου (by Lascaris?) and, in the second hand, placed so that they appear to precede Himerius, Αἰμιλίου Ἰσπανοῦ Λιτορίου Βενεβεντάνου (Pl. 7). The name-lists express a desire to draw attention to the sheer number of authorities available to be consulted; Archedemus, Emilius Hispanus, Litorius Beneventanus, and Himerius are quoted by other authors but are certainly not major sources of the text. The same list figures, as we shall see, in the first printed editions of the *Hippiatrica*, but with the addition of Didymus, Diophanes, Pamphilus, and Mago of Carthage. The absence of these last four names from the Florence manuscript

¹⁰⁴ I. del Lungo, *Prose Volgari inedite e Poesie Latine e Greche edite e inedite di Angelo Ambrogini Poliziano* (Florence, 1867), 130.

¹⁰⁵ See M. Mallett, 'Horse-Racing and Politics in Lorenzo's Florence', in M. Mallett and N. Mann (eds.), *Lorenzo the Magnificent: Culture and Politics* (= Warburg Institute Colloquia, 3; London, 1996), 253–62.

¹⁰⁶ Fo. 182: *Μάγων Καρχηδόνιος*, fo. 183^v: *Ἀριστοτέλους*, fo. 187^r: the Latin words *στάβλον*, *βούττιον*, *ἐντρυνγον*, *κόνδιτον*, 196^v: Marullus, 205^r: *Κέλσος*, *Φλώρος*.

¹⁰⁷ E. B. Fryde, *Greek Manuscripts in the Private Library of the Medici 1469–1510* (Aberystwyth, 1996), 651.

¹⁰⁸ D. F. Jackson, 'A New Look at an Old Book List', *Studi italiani di filologia classica*, 16 (1998), 83–108.

¹⁰⁹ Fo. 108^v, *ibid.* 86 and 101.

would seem to suggest that the list was not added to the manuscript from the edition; it may appear for the first time in Laurentianus Plut. 75. 6.¹¹⁰ The same list appears in Vaticanus Barberinianus gr. 212, British Library Additional 5108, Parisinus ital. 58, and Corsini 43. D. 32, but copied as part of the title in the hand of the scribe; we shall see that the first three of these manuscripts also have connections to Lascaris and his circle.

Vaticanus Barberinianus gr. 212, or 'K' (285 by 205 mm, 163 folia, in a plain green leather binding), is copied on paper datable from its watermarks to the late fifteenth century¹¹¹ by nine different hands, presumably from an unbound exemplar. The copy is not entirely finished: one scribe has omitted all the lemmata, which were presumably to be added later in red. Three quinions have been identified as being in the hand of Janus Lascaris (Pl. 8);¹¹² one wonders whether the other copyists might have been his students. The same list of authors added to the Florence manuscript precedes the text in K, in the hand of the first scribe. The manuscript is marked with a note of possession of the scholar and senator Carlo di Tommaso Strozzi (1587–1670),¹¹³ known to have given books to Cardinal Francesco Barberini (1597–1679).¹¹⁴ The library of the Barberini family was purchased by the Vatican in 1902.¹¹⁵

British Library, Additional 5108, or 'a' (225 by 331 mm, 157 folia, in a brown leather binding with gold tooling), is copied on paper belonging to the first half of the sixteenth century.¹¹⁶ Although it is not decorated (apart from rubrications), it is a fine copy, large in size and with generous margins. The copyist was identified by Omont as Arsenios (in secular life, Aristoboulos) Apostolis (1468/9–1535), sometime bishop of Monemvasia;¹¹⁷ however,

¹¹⁰ One may note that Harley 5760 (Maximus of Tyre) is inscribed on the flyleaf 'Questo autore fu di Grecia portato a Lor. zo de Medici da Gio. Lascari'. Omont, 'Notes sur les manuscrits grecs du British Museum', *Bibliothèque de l'École des Chartes*, 45 (1884), 329.

¹¹¹ Briquet, 'Aigle' 82; Briquet, 'Balance' 2450; Briquet, 'Chapeau' 3370; Briquet, 'Fleur' 6659; see J. Mogenet, *Codices Barberiniani graeci*, II (Vatican, 1989), 52. Twelve hands according to S. de Ricci, *Liste sommaire des manuscrits grecs de la Bibliotheca Barberina* (Paris, 1907; repr. from *Revue des Bibliothèques*, April–June, 1907), 17.

¹¹² Fos. 109–118^v; 131–150^v: Gamillscheg and Harlfinger, *Repertorium*, 3A, 95–6, no. 245.

¹¹³ Fo. 1^r: 'Caroli Strozze Thomae filii 1635'.

¹¹⁴ Vat. Barb. gr. 127 bears a similar note, cf. G. Mercati, *Scritti d'Isidoro il cardinale Ruteno e codici a lui appartenuti che si conservano nella Biblioteca Apostolica Vaticana* (Studi e Testi, 46; Rome, 1926), 90–3; Bignami-Odier, *La Bibliothèque Vaticane*, 115.

¹¹⁵ Bignami-Odier, *La Bibliothèque Vaticane*, 109, 126 n. 94, 242, 255 n. 132; ead. 'Guide au Département des manuscrits', 223–5.

¹¹⁶ Watermarks: Briquet, 'Sirène' 13884–91; Briquet 'Ancre' 478–94; Briquet, 'Arbalète' (with star) 760–2, Harlfinger, 'Arbalète' 65 (1534) and 66 (1536).

¹¹⁷ H. Omont, 'Notes sur les manuscrits grecs du British museum', 335. On Arsenios, see D. J. Geanakoplos, *Byzantium and the Renaissance: Greek Scholars in Venice* (Cambridge, Mass., 1962; repr. Connecticut, 1973), 167–200. Gamillscheg and Harlfinger, *Repertorium*, IA, 41, no. 27.

Gamillscheg and Harlfinger attribute the manuscript instead to Christopher Kontoleon (active in the first half of the sixteenth century).¹¹⁸ Kontoleon, a native of Monemvasia, was, along with Devaris, a student at the Greek college founded by Lascaris and Leo X in Rome. A member of the circle of Cardinal Ridolfi (and at some point part of the cardinal's household), he also copied manuscripts for Guillaume Pellicier.¹¹⁹ One may note the use of the 'classical' form of sigma in titles; also worthy of note are the alternative readings in the margin, in the same hand as the main text, throughout the manuscript. A list of authors precedes the text (Pl. 9) as in K. The text is followed by a note describing a Corsican practice of silencing horses by cutting out their tongues.¹²⁰ The manuscript entered the collection of the British Museum in the last decades of the eighteenth century.¹²¹

No. 43. D. 32 (Rossi 358) of the Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, or 'c',¹²² is copied on paper with watermarks similar to those of BL Additional 5108,¹²³ but that has been folded two more times so the pages are in octavo, one quarter the size (163 by 112 mm) of those of the London manuscript. Corsini 43. D. 32 is, on the other hand, much fatter, at 575 folia. The text is prefaced by the same list of authors as in BL Additional 5108; it is also followed by the note about the Corsican practice for silencing horses. The manuscript belonged to the Florentine bibliophile Niccolò

¹¹⁸ A. Meschini, *Cristoforo Kontoleon* (Padua, 1973); Gamillscheg and Harlfinger, *Repertorium*, IA, 188–9, no. 383; cf. Vogel and Gardthausen, *Die griechischen Schreiber*, 430.

¹¹⁹ A. Palau, 'Les copistes de Guillaume Pellicier', 210–11. Kontoleon is mentioned in a letter of Pellicier dated 7 Aug. 1536: L. Dorez, 'Une lettre de Guillaume Pellicier, évêque de Mague-lonne, au cardinal Jean du Bellay', *Revue des bibliothèques*, 4 (1894), 232–40.

¹²⁰ Ἐν Κύρῳ τῇ νήσῳ ἀποτέμνουσι τῶν ἵππων τῆς γλώττης ἵνα μὴ χρημετίζωσιν. ἄλλοι δ' ἱλλάδι περισφίγγουσιν.

¹²¹ F. Madden and E. A. Bond, *Index to the Additional Manuscripts, with those of the Egerton Collection, preserved in the British Museum, and acquired in the years 1783–1835* (London, 1849), s.v. Apsyrtus, Hierocles, Tiberius, Theomnestus, etc. Björck has noted that a lost manuscript described as 'Apsyrtus graece, (in) f(olio), ch(artaceus)' belonged to the Danish physician Johan Rode (1587–1659), professor of botany at Padua; 'Apsyrtus, Julius Africanus, et l'hippiatrique grecque', 44. The London manuscript is perhaps the only surviving one that corresponds to the description.

¹²² S. Moretti, 'No. 154: Apsirto, *Hippiatrica*; Roma, Biblioteca dell'Accademia Nazionale dei Lincei e Corsiniana, 43. D. 32 (Rossi 358)', in A. Cadei (ed.), *Il Trionfo sul tempo: Manoscritti illustrati dell'Accademia Nazionale dei Lincei* (Catalogo della mostra, Palazzo Fontana di Trevi, 27 nov. 2002–26 gen. 2003) (Modena, 2002), 335–6; A. Petrucci, *Catalogo Sommario dei Manoscritti del Fondo Rossi, Sezione Corsiniana* (Accademia nazionale dei Lincei, *Indici e Sussidi Bibliografici della Biblioteca*, 10; Rome, 1977), 173; G. Pierleoni, 'Index codicum graecorum qui Romae in bybliotheca Corsiniana adservantur', *Studi italiani di filologia classica*, 9 (1901), 475–6, no. 14.

¹²³ Briquet, 'Sirène' 13884 and 13888; Harlfinger, 'Arbalète' (with fleur de lys) 65 (1534) and 66 (1536).

Rossi (1711–85);¹²⁴ his collection of 415 manuscripts, 1300 incunabula, and also later printed books was bought by Bartolomeo Corsini in 1786, and became part of the library of the Accademia dei Lincei in 1883.¹²⁵ The binding *alla greca* has been identified by A. Hobson as the product of a workshop in Rome that bound manuscripts and printed books (and possibly also produced copies of manuscripts) for Cardinals Salviati and Ridolfi in the first half of the sixteenth century.¹²⁶ A binding by the same workshop has left traces on Parisinus ital. 58, an Italian translation of the *Hippiatrica* that belonged to Lascaris and Ridolfi.¹²⁷

Naples, Borbonicus III. d. 26, or ‘N’, another manuscript of modest size (161 by 112 mm, 396 folia, with a mottled brown leather binding badly worm-eaten) is copied on paper with a mermaid watermark of the first half of the sixteenth century, similar to that present in Corsini 43. D. 32 and BL Additional 5108.¹²⁸ But the contents are slightly different from the other manuscripts in this family, and include additions from the other family BPbO. The author-list appears before the table of contents in a short form: Ἀψύρτου, Ἱεροκλέους, Πελαγωνίου, Τιβερίου, καὶ Θεομνήστου περὶ θεραπέιας ἔππων. At the end of the text, as in PbO, are the two elaborate recipes for ‘warming ointment’ and the ‘charioteer’s powder’. After the two recipes follow the metrological passages which precede the text in IKac, and another present only in the other branch of the B recension.¹²⁹ The note about Corsica is not present. The ‘classical’ sigma is used by the scribe at the beginning of the first chapter. Many of the Greek manuscripts in the National Library of Naples came from the collection of Cardinal Alexander Farnese (1520–89), archaeologist and patron of the

¹²⁴ *Catalogus Selectissimae Bibliothecae Nicolai Rossii, cui praemisum est commentariolum de ejus vita* (Rome, 1786), 36, no. 358; *ibid.* 156, two copies of the 1537 editio princeps of the *Hippiatrica*. See also R. Hirsch, ‘Niccolò Rossi, Collector of Manuscripts and Printed Books’, *Gutenberg Jahrbuch* (1971), 395–8.

¹²⁵ O. Pinto, *Storia della biblioteca Corsiniana e della biblioteca dell’Accademia dei Lincei* (Florence, 1956), 35–6.

¹²⁶ A. Hobson, ‘Two Early Sixteenth-Century Binder’s Shops in Rome’, *De libris compactis miscellanea* (Aubel and Brussels, 1984), 90–8. The binding was restored in 2002 by S. Sotgiu, whose detailed report of the conservation process is in the manuscript’s box. I have not seen S. Sotgiu, ‘La legatura “alla greca” del ms. 43.D.32, *Hippiatrica* (Biblioteca Corsiniana—Roma): rilevamento codicologico e strutturale ed esecuzione di un intervento non invasivo’, *Lo Stato dell’Arte: Conservazione e restauro. Confronto di esperienze. Atti del I° Congresso Nazionale IGIC*, Villa Gualino—Torino, 5/7 Giugno 2003 (Padua, 2005).

¹²⁷ Hobson, 96; see also Miller, ‘Notice sur le manuscrit grec No. 2322’, 4. The manuscript is marked on fo. 152^v with Lascaris’ monogram and shelfmark N°. XXXIX della 21 capsula, written in Devaris’ hand. It contains a translation of the B recension, copied by several different hands, with the author-list as in IKac on fo. 152^v. A. Marsand, *I Manoscritti italiani della regia biblioteca parigina* (Paris, 1835), 21–2, no. 7248.

¹²⁸ Mermaid in a circle, cf. Briquet, ‘Sirène’ 13884–91. The MS is dated to the 15th c. by S. Cyrillus, *Codices graeci manuscripti Regiae Bibliothecae Borbonicae*, II (Naples, 1832), 418.

¹²⁹ 392^f: ἐτέρα ἑκθεσις περὶ μέτρων καὶ σταθμῶν ἵπποιατρικῶν.

arts.¹³⁰ The *Hippiatrica* does not figure in the 1584 inventory of the Farnese library, but some other manuscripts known to have been in the library at that time are not listed.¹³¹ If the manuscript is from the Farnese library, one might speculate that Matthaios Devaris, Lascaris' student, who was employed by the cardinal at Rome for twenty-eight years, had a hand in acquiring it or having it copied. The Farnese books were transferred to Naples between 1734 and 1738 by Charles de Bourbon, upon his accession as king of Naples. Borbonicus III. d. 26 does appear in the catalogue of Greek manuscripts in the royal library of Naples published by Harless in 1796.¹³²

THE D RECENSION

The D recension is based on the same core of text as B: that is, excerpts from Apsyrus, parallel texts from Hierocles, Anatolius, Eumelus, Theomnestus, Hippocrates, Pelagonius, Tiberius, and the *προγνώσεις καὶ ἰάσεις*.¹³³ Preceding the medical texts is a chapter on the conformation and temperament of the horse, and on breeding and different breeds; this section, made up of excerpts from several authors, has no parallel in either the B or the M recension. D also contains additions from a number of other well-known authors, including Aristotle, Aelian, and Julius Africanus, the medical compilers Oribasius, Aëtius of Amida, and Paul of Aegina (the last two appearing anonymously); as well as the earliest and the latest datable texts in the *Hippiatrica*, namely the fragment of Simon of Athens and two recipes attributed to the Patriarch Theophylact. These last provide a *terminus post quem* for this recension: Theophylact was Patriarch between 933 and 956. These excerpts are gathered into chapters, as they are in B, and the order of these chapters is essentially the same as in B. The Teubner edition contains only those excerpts from the two manuscripts which do not figure in M or B.¹³⁴ Although their content is nearly the same, the character of text in the

¹³⁰ G. Guerrieri, *Il Fondo farnesiano: Quaderni della R. Biblioteca nazionale Vittorio Emanuele III di Napoli*, ser. II, 2 (Naples, 1941); F. Benoit, 'Farnesiana', *Mélanges d'archéologie et d'histoire*, 40 (1923), 165–206.

¹³¹ Benoit, 'Farnesiana', 177–83.

¹³² G. C. Harless (ed.), *Ioannis Alberti Fabricii ... Bibliotheca Graeca sive Notitia scriptorum veterum Graecorum*, 3rd edn., vol. 5 (Hamburg, 1796), 774 no. 7.

¹³³ That C and L are not derived from Phillipus 1538 itself is shown by the fact that both manuscripts contain the three chapters not copied in B; *CHG* II p. xxv.

¹³⁴ C is edited in part as *Hippiatrica Cantabrigiensia* in vol. II of the Teubner edition; selections from L are edited in the same volume as *Additamenta Londinensia*.

two manuscripts is different enough that one may speak of the C and L recensions.

Emmanuel College, Cambridge, 251 (formerly III. 3. 19), or 'C', is in three sections, two of parchment and one of paper (245 by 165 mm, 185 folia, numbered as pages).¹³⁵ The first parchment section, pp. 1–222, is palimpsest;¹³⁶ the next, pp. 223–333 is on clean parchment, while the third section, pp. 334–69, is on paper. At least two hands or groups of hands are discernible: the first on pp. 1–222, the second on pp. 223–369. The script of the second group hangs from the rulings, which are clearer than those on the palimpsest leaves.¹³⁷ The hands are attributed by M. R. James to the twelfth and fourteenth centuries without indication of which hand belongs to which date; more recently N. Tchernetska has noted the resemblance of the first hand or group to Terra d'Otranto script of the thirteenth century and that of the second to slightly later, perhaps fourteenth-century scripts (Pls. 10–11). It should be noted that the changes of hand do not correspond to major divisions in the text, nor is there reason to imagine that different parts of the compilation should have been copied at very different dates. Throughout all parts of the manuscript are interlinear glosses in vernacular Greek; these are in a black ink different from that in which the text is written, and in a hand attributed by James to the fifteenth century. In the first section, tabs of red or black leather mark the folia on which chapters begin. Folia are missing at various points throughout the manuscript, and at the beginning and end. An old label does not provide obvious clues about the history of its ownership.¹³⁸ C was in the library of Emmanuel College by 1673, when it was collated against Isaac Casaubon's copy of Grynaeus' edition of the *Hippiatrica*

¹³⁵ M. R. James, *The Western Manuscripts of Emmanuel College* (Cambridge, 1904), 148–50. A description of C is given by Oder, 'De hippiatricorum codice Cantabrigiensi', *Rh. Mus.* 51 (1896), 52–69; the manuscript had been sent to him in Berlin in 1891. See also CHG II pp. xxv–xxvi. Daremberg published a short description of the MS communicated to him by U. C. Bussemaker in 'Notices et extraits des manuscrits médicaux grecs et latins des principales bibliothèques de l'Angleterre', *Archives des missions scientifiques et littéraires*, III (Paris, 1854), 47–9. A copy of the MS made by Bussemaker in 1857 is in Paris: H. Omont, *Inventaire sommaire des manuscrits du supplément grec de la Bibliothèque nationale* (Paris, 1883), no. 573.

¹³⁶ Identified by James, *The Western Manuscripts*, as a text in an upright uncial with commentary in an inclined uncial. See also N. Tchernetska, 'Greek Palimpsests in Cambridge', diss. (Cambridge, 2002), pp. 112–13.

¹³⁷ Tchernetska identifies the ruling of the new sections of the MS as Leroy, type 00C1; and notes that that of the earlier section is unclear and may be left over from the first use of the parchment.

¹³⁸ The label is inscribed *liber magni pretii quoad partem primam scriptus accuratius. plurima continet quae in libro typis excuto (scil. Basileae 1537) non comparent*; James dates it to the 17th or 18th c.: *The Western Manuscripts of Emmanuel College*, p. 148. Most of the manuscripts in the collection were gifts from fellows or members of the college: F. Stubbings, *A Brief History of Emmanuel College Library* (Cambridge, 1981), 11.

(Casaubon had died in 1614).¹³⁹ A manuscript copy of C in the library of Trinity College, Cambridge bears the same date of 1673.¹⁴⁰ C was used by Peter Needham for his 1704 edition of the *Geoponica*.¹⁴¹

The text of C is in two parts. The first consists of twelve excerpts on the choice of a horse, on breeding and the early handling of the foal, and a list of breeds in alphabetical order.¹⁴² Oder has attributed the first excerpts to Anatolius, on the basis of their resemblance to passages from Anatolius in the M recension and book XVI of the *Geoponica*. The list of breeds is nearly the same as a list in the Bestiary of Constantine VII preserved in a manuscript on Mt. Athos, Dionysiou 180;¹⁴³ this latter list, which is not in alphabetical order, figures in the Bestiary among excerpts from Aelian, but is attributed to Timothy of Gaza by Moritz Haupt.¹⁴⁴

The second part of the text is the hippiatric compilation proper, and begins with the title *Ἱππιατρικὸν βιβλίον, τὸ οὕτω καλούμενον ἢ Μέλισσα*.¹⁴⁵ As in B, the excerpts are gathered into chapters, of which there are 109. The numbering of these chapters coincides with that of B from C1 to C100. The excerpts which C shares with B are on the whole unaltered; in several cases, however,

¹³⁹ British Library, 779 e. 4. Bound into the volume are manuscript notes dated A.D. 1673, which refer to an *Emmanuelensis codex* and list Simon of Athens and the Patriarch Theophylact in an *index nominum*. Grynaeus' text is also collated against Ruel's translation and Isaac Voss's manuscript of the *Hippiatrica*.

¹⁴⁰ Trinity College, Cambridge, O. 9. 16, given to the college in 1738 by Roger Gale, son of Thomas Gale (1635/6–1702) Regius Professor of Greek at Cambridge. See M. R. James, *The Western Manuscripts in the Library of Trinity College Cambridge*, III (Cambridge, 1902), 5–12 and 456, no. 1428. The MS has notes in the same hand as the 1673 annotations in BL 779 e. 4; these include corrections from Voss's MS on p. 110.

¹⁴¹ *Γεωπονικά. Geoponicorum sive De re rustica libri xx Cassiano Basso scholastico collectore antea Constantino Porphyrogenito a quibusdam adscripti* (Cambridge, 1704), p. xxii and notes to ch. XVI, 416 ff. The 1673 notes may well be Needham's; he mentions having used Casaubon's annotated copy of the *Geoponica*, cf. p. xxii.

¹⁴² CHG II pp. 115–24, a revised version of the edition in Oder, *Anecdota Cantabrigiensia, Wissenschaftliche Beilage zum Jahresbericht des Friedrichswerderschen Gymnasiums zu Berlin* (Berlin, 1896). A copy of this passage made by Francis Cherry (1665–1713), in Oxford, MS. Cherry 28, appears to be from the Cambridge manuscript. Cherry notes that the text was communicated to him by a certain 'illustrious Bernard'—could it have been Edward Bernard, compiler of the *Catalogi librorum manuscriptorum Angliae et Hiberniae* (Oxford, 1697), in which C figures, I. 3, p. 90, no. 13? The passage was published by J. A. Cramer, *Anecdota Graeca e codd. manuscriptorum bibliothecarum Oxoniensium*, IV (Oxford, 1837), 256–8. The passage is also copied in Lugd. Voss. misc. 40 (17th c.), see K. A. de Meyier, *Bibliotheca Universitatis Leidensis, Codices Manuscripti*, VI: *Codices Vossiani Graeci et Miscellanei* (Leiden, 1955), p. 277.

¹⁴³ Ed. Lambros, *Excerptorum Constantini de natura animalium libri duo*, II. 588–609.

¹⁴⁴ M. Haupt, 'Excerpta ex Timothei Gazaei libris de animalibus', *Hermes*, 3 (1869), 17. In the 11th-c. epitome of Timothy's work on animals (Monac. 514, 14th c.) is the note *ὅτι ἀπὸ διαφόρων ἐθνῶν εἰσι διάφοροι ἵπποι κατ' ἀρετήν*; Haupt takes this to refer to a list along the lines of the one in C. A similar list appears in ps.-Oppian, *Cyng.* I.271–315.

¹⁴⁵ Fo. 11^f.

excerpts from two or three authors are run together under a composite lemma. C also contains texts of the principal authors which do not exist in B, but are present in M, and others which figure neither in M nor in B, including two letters of Apsyrtus, seven excerpts from Hierocles, nine from Tiberius, and a long passage from Theomnestus on the selection and care of the young horse.¹⁴⁶ On the other hand, Hierocles' prooimia are omitted from C, as are several passages in which he copies Apsyrtus closely.

C also contains excerpts attributed to sources other than the veterinary writers. Notable among these is a fragment of the work of Simon of Athens, the earliest known Greek writer on horses. The title in the lemma of C93 is *Σίμωνος Ἀθηναίου Περὶ εἰδούς καὶ ἐπιλογῆς ἵππων*; the passage describes the conformation and temperament of the horse (Pl. 10).¹⁴⁷ Thirty-nine excerpts are attributed to Julius Africanus, and are evidently drawn from his *Kestoi* (Pl. 11).¹⁴⁸ Several excerpts in C are attributed to well-known medical writers; these, as well as a number of anonymous excerpts, have been identified by Oder and Hoppe and Björck as passages from the medical compilations of Oribasius, Aëtius, and Paul of Aegina.¹⁴⁹ A couplet in hexameters is attributed to St John Chrysostom.¹⁵⁰

British Library, Sloane 745, or 'L' (245 by 170 mm, 245 folia), is written on fibrous paper with no watermarks; the script, which hangs from the rulings, is of the thirteenth century.¹⁵¹ The manuscript appears to have been wet at some point, so that the pages are stained and the ink of the rubrications has run; however, it is legible, and otherwise intact. A *pyle* of red interlacing squares frames the title of the table of contents; throughout the manuscript, divisions between chapters are indicated with bands of simple decoration in red and black ink. A note of ownership indicates that it belonged to one Jo. Chalceopylus of Constantinople;¹⁵² known as a scribe in the fifteenth century.¹⁵³ From Chalceopylus, it passed, along with an illustrious companion, an early

¹⁴⁶ These passages are enumerated in Oder, 'De hippiatricorum codice Cantabrigiensi', 55 ff.

¹⁴⁷ C93, *CHG* II pp. 228–31.

¹⁴⁸ Accepted as genuine by vieillefond, since several of the fragments are attributed to Africanus in other sources; *Les 'Cestes' de Julius Africanus* (Paris, 1970), 221 ff.

¹⁴⁹ Dioscorides: C57.3, *CHG* II p. 188 = *De materia medica* I.41; Oribasius C33.8, *CHG* II p. 169 = *Synagogai* IV. 605, and C100, *CHG* II p. 243, which does not correspond to any known text of Oribasius. Moschion: C62.5. See Oder, 'De hippiatricorum codice Cantabrigiensi', 60 ff.; on the anonymous excerpts from medical texts, Björck, 'Zum *CHG*', 31–44.

¹⁵⁰ Oder, *Anecdota Cantabrigiensia*, 100. C16.3, *CHG* II p. 154.

¹⁵¹ S. Ayscough, *A Catalogue of the Manuscripts Preserved in the British Museum*, II (London, 1782), 645 and 684, repeating Wanley's notice (see below). The ruling is Leroy type 20D1.

¹⁵² Fo. 1^v: 'libro Io. Chalceopylus Constantinopolitanus'.

¹⁵³ See Gamillscheg and Harlfinger, *Repertorium*, 2A, 106, no. 249; Vogel and Gardthausen, *Die griechischen Schreiber*, 202.

tenth-century manuscript of Lucian (now Harley 5694),¹⁵⁴ to Henricus Casolla and then to his friend the Neapolitan scholar Antonio Seripando, who also inherited Parrhasius' books. (Harley 5694 was given by Casolla as a gift.) When Seripando died in 1539, his library passed to his brother Cardinal Girolamo Seripando (d. 1563), whose name is inscribed at the end of the text.¹⁵⁵ Seripando's books were willed to the Augustinian monastery of S. Giovanni a Carbonara at Naples;¹⁵⁶ from there both manuscripts were purchased by Jan de Witt (1662–1701), son of the Dutch statesman of the same name. At the sale of de Witt's collection of manuscripts, printed books, and antiquities at Dordrecht in 1701,¹⁵⁷ the two manuscripts were purchased by Jan van der Marck. Their next owner was the antiquary and topographer John Bridges (1666–1724). At his death the two manuscripts parted company, the Lucian purchased by Robert Harley, Earl of Oxford, and the *Hippiatrica* by the physician, collector, and scientist Sir Hans Sloane (1660–1753). A description of L made by Humfry Wanley, employed by Sloane as librarian from 1701 to 1703, provides an indication of the date by which the manuscript was purchased.¹⁵⁸ The subject-matter of L is in keeping with the predominantly scientific character of Sloane's library. His collection was purchased for the newly-founded British Museum in 1753. A copy of the manuscript made in 1861 by U. C. Bussemaker is in the Bibliothèque nationale in Paris.¹⁵⁹

L contains all the additions of C: the fragment from Simon of Athens, the anonymous excerpts on conformation and temperament, and the various

¹⁵⁴ Harley 5694 has a similar note of possession of Chalceopylus, and another which says 'Antonii Seripandi ex Henrici Casolle amici optimi munere'. See Omont, 'Notes sur les manuscrits grecs du British Museum', 331; and, on the various owners of the two MSS, C. E. Wright, *Fontes Harleiani: A Study of the Sources of the Harleian Collection of MSS Preserved in the Department of Manuscripts at the British Museum* (London, 1972), 82, 97, 100, 233–4, 249, 302, and 357.

¹⁵⁵ Fo. 244: 'F. Hieronymi Seripandi'.

¹⁵⁶ Frati and Sorbelli, *Dizionario bio-bibliografico dei bibliotecari e bibliofili italiani*, 516.

¹⁵⁷ *Catalogus bibliothecae luculentissimae, et exquisitissimae ac rarissimae in omni disciplinarum et linguarum genere libris, magno studio, dilectu, et sumptu quaesitis, instructissimae, a Joanne de Witt, Joannis Hollandiae Consilarii et Syndici, magnisque Sigilli custodis, filio* (Dordrecht, 1701), 57 (Libri manuscripti in quarto, no. 1). No. 765, p. 147 is a copy of the 1537 edition of the *Hippiatrica*.

¹⁵⁸ M. A. E. Nickson, 'Books and Manuscripts', in A. MacGregor (ed.), *Sir Hans Sloane, Collector, Scientist, Antiquary, Founding Father of the British Museum* (London, 1994), 266; the description in Sloane 3972B, fos. 15^v–27^r, no. lxx. As Nickson points out, Wanley 'obviously enjoyed' making this long, detailed, and beautifully hand-written inventory of the contents of the manuscript. He gives no indication, however, of where the MS was acquired. Wanley suggests that a note on fo. 1^v 'In hoc codice non modo longe alius ordo est; sed et longe plura habentur quam in editione Basiliensi anni 1537' is in de Witt's hand; certainly the latter possessed a copy of the printed text against which to compare the MS.

¹⁵⁹ Omont, *Inventory sommaire des manuscrits du supplément grec*, no. 580.

borrowings from texts on human medicine. Several more excerpts from Tiberius are included; the end of the table of contents also lists the chapters of a work by Tiberius on cows, not present in the text.¹⁶⁰ Another text which figures only in L is a letter from Teuthris the Arab on how to use the viscera of a vulture for various medical purposes.¹⁶¹ The organization of the text in L is somewhat different from that of C. Each excerpt is identified in L as a κεφάλαιον or chapter; these are grouped by subject into ninety-nine τμήματα, or sections. The beginning of each section is indicated by a simple band of decoration and a rubric in the margin. The text of L begins with a selection of advice about breeding made up of excerpts from Apsyrus, Hierocles, and Tiberius, as well as the anonymous passages on conformation and temperament, which are falsely attributed to Hierocles. Numerous other excerpts that appear in M, B, and C attributed to different authors are falsely ascribed to Hierocles in the lemmata of L. Many are attributed to Julius Africanus; fourteen of these do not appear in other recensions, and may well be excerpts from the *Kestoi*; but others are excerpts attributed in M and B to other hippiatric authors, and only labelled with Africanus' name in L.¹⁶² Additional, and more obvious falsifications in the lemmata include attributions to Choricus the Sophist and Apollonius of Tyana; we shall return to these below.

After these introductory chapters, the title *Τεροκλέους ἵπποσοφικόν, ἐν ᾧ προοίμιον καὶ περὶ πυρετοῦ καὶ πῶς αὐτὸ θεραπεύειν χρή* introduces the sequence of subjects as in the B recension. Hierocles' prooimion, omitted from C, does figure in L. The text of L is divided into two books: Hierocles' second preface begins the second section, at the end of chapter 49. The numbering of the sections of the second book begins again from 1 to 50, and the text concludes with an appendix of recipes for drugs.

Although the sections, for the most part, follow the order of B and C, within them the excerpts have been rearranged. In every section in which they are both represented, excerpts attributed to Hierocles are placed before those of Apsyrus: juxtaposed, as in B, but their order reversed (Pl. 12). Excerpts from Tiberius figure more prominently than they do in B and C, and are often

¹⁶⁰ Texts present only in L are edited in *CHG* II pp. 253–71.

¹⁶¹ *CHG* II (*Add. Lond.*), 253. Cf. John Lydus, *De mensibus*, ed. Wünsch, IV, 143, a remedy for epilepsy concocted from the innards of a vulture, whose source is described as an ἐπιστολή περὶ τῆς δι' ὀρνέων θεραπείας sent to the emperor Claudius by Arethas, τῶν Σκηνιτῶν Ἀράβων φύλαρχος. A similar letter attributed to one Bothros exists in two copies (ed. P. Boudreaux, *CCAG* VIII (3), 126–7); cf. F. Cumont 'Le sage Bothros ou le phylarque Arétas?' *Revue de philologie*, 50 (1926), 13–33. Uses for the vulture also in the *Cyranides*: D. Kaimakis (ed.), *Die Kyraniden* (Meisenheim am Glan, 1976), 199–201.

¹⁶² All, however, are rejected by Vieillefond because of the other spurious attributions in L; *Les Cestes*, pp. 220–1.

grouped with Hierocles and Apsyrus at the beginnings of the sections. Another distinctive feature of L is that the editor interjects his observations about the relation of these three authors either in the margin or after the excerpt in question, in the central column of text (Pl. 13). These comments are not printed in the Teubner edition, though a selection from them is given in the preface to *CHG* II.¹⁶³

THE RV RECENSION

Two manuscripts, Parisinus gr. 2244 and Lugdunensis Vossianus gr. Q 50, contain the heterogeneous assortment of texts known as the RV recension. These texts, ill-represented in the Teubner edition, were identified and partly catalogued by Björck.¹⁶⁴ The two manuscripts R and V have in fact attracted more attention than have the major recensions of the compilation MBCL; this attention has been focused almost entirely on the lively illustrations which accompany the texts.¹⁶⁵ Detailed inventories of the contents of the two manuscripts figure in Doyen-Higuet's forthcoming edition of the *Epitome*; here a few brief remarks will suffice.

The first text in RV appears, on initial inspection, to be the treatise of Hierocles preserved independently of the hippiatric compilation. But, as Björck has shown, the RV recension seems in fact to be a reconstitution of the text, patched together from excerpts labelled with Hierocles' name in the B

¹⁶³ See *CHG* II p. xxvii.

¹⁶⁴ 'Le Parisinus graecus 2244 et l'art vétérinaire grec', *REG* 48 (1935), 509–10. V is described in the preface to *CHG* II and is partly edited as *Excerpta Lugduniensia*, *CHG* II pp. 272–313; R, on the other hand, is not mentioned at all, though its readings appear in the apparatus twice: *CHG* I p. 136; *CHG* II p. 45.

¹⁶⁵ Isaac Voss apparently argued for the antiquity of the practice of shoeing on the basis of the horseshoe-nails visible in some illustrations of his copy of the text (V): J. Beckmann, 'An Essay on Ancient Horse-Shoeing', *The Farrier and Naturalist*, 1 (1828), 123–4. On the illustrations, see, more recently, K. Weitzmann, *Ancient Book Illumination* (Cambridge, Mass., 1959), 22–3; idem, 'The Character and Intellectual Origins of the Macedonian Renaissance', 194–5; K. Vogel, 'Byzantine Science', in J. M. Hussey (ed.), *The Cambridge Medieval History*, IV (Cambridge, 1967), 264–305; A. Grabar, 'L'art profane à Byzance', in *Actes du XIVe Congrès international des études byzantines, Bucharest, 6–12 septembre 1971*, I (Bucharest, 1974), 328–9; Z. Kádár, 'Le problème du style dans les illustrations du manuscrit hippiatrice de la Bibliothèque nationale de Paris (Gr. 2244)', in *Actes du XIVe Congrès international des études byzantines*, II, 459–61; A.-M. Doyen-Higuet, 'Contribution à l'étude des manuscrits illustrés d'hippiatrie grecque', *PACT* 34 (1988), 75–107; S. Lazaris, 'L'illustration scientifique à Byzance: Le Parisinus gr. 2244', *Cahiers Pierre Belon*, 2 (1995), 163–94; idem, 'L'illustration des traités hippiatrices byzantins: le *De curandis equorum morbis* d'Hiéroclès et l'*Epitomé*', *Medicina nei secoli*, 11 (1999), 541–6.

recension of the *Hippiatrica*.¹⁶⁶ In both of the manuscripts the text of Hierocles appears in the company of the *Epitome* and of a collection of excerpts from Apsyrtus, Tiberius, and the *Epitome*. The first two texts in RV, namely the reconstitution of Hierocles and the *Epitome*, are endowed with one of the most extensive cycles of illustration attached to a Greek medical text. Each excerpt is preceded by a single image of an ailing horse, occasionally with an attendant, which fills about half of the page (Pls. 14–15). At the division between Hierocles' two books, before the second prooimion, is an author-portrait (Pl. 16). We shall return to the character and origins of the RV recension, and of its intriguing illustrations, in the chapter on the evolution of the *Hippiatrica*.

Parisinus graecus 2244, or 'R' (285 by 195 mm, 319 folia), is written on Italian paper of the fourteenth century.¹⁶⁷ The hand is archaizing: such imitation of the script of the Middle Byzantine period is perhaps more typical of ecclesiastical manuscripts.¹⁶⁸ The first part of the manuscript is mutilated, and has been repaired. Several different texts in different hands are bound together in the volume; they include pharmacological glossaries, fragments of the *De alimentorum facultatibus* of Symeon Seth, and astrological texts. These, and the title of the *Epitome* in R, Γαληνοῦ καὶ Ἱπποκράτους ἐκ τῶν πλεονεκτημάτων αὐτῶν διόρθωσις καὶ διαταγὴ τῶν ζώων ἵππων τε ὄνων καὶ τῶν λοιπῶν κτηνῶν πῶς ὀφείλουσιν αὐτὰ χειρουργῆν καὶ τὰ φάρμακα θέτειν καὶ τοὺς ποτοὺς ποιεῖν (*sic*),¹⁶⁹ correspond to the contents of no. 165 in the catalogue of Guillaume Pellicier (a medical miscellany, counted among the 'very old books', παλαιότατα βιβλία).¹⁷⁰ Shelfmarks and a title in the hand of

¹⁶⁶ Björck, 'Le Parisinus graecus 2244 et l'art vétérinaire grec', 509–10. The text consists of 115 chapters which correspond to the excerpts attributed to Hierocles in B, but do not include all of them. Excerpts attributed to Hierocles in M but not present in B (e.g. the two spells) are absent from RV, and excerpts attributed to Hierocles in M but anonymous in B are also, tellingly, not included. R and V contain the excerpts that are not in B but do figure in C: *περὶ καρδιακῶν* (C 20.1, CHG II p. 156), *περὶ θρόμβων* (C68, CHG II p. 200), and *περὶ κεντρίτιδος* (C75, CHG II pp. 213–14), as well as a passage which is not in B, *περὶ ἄσθματος* (M1043, CHG II p. 100). One excerpt (*περὶ μυγαλῆς*) occurs twice; moreover, two fragments of Apsyrtus' text have been included (*περὶ φθορᾶς τριχῶν*, *περὶ σκορπίου*). The order of the excerpts is closer to that of B or L rather than M, and the lemmata are in the simplified form of B rather than the verbose form of those in M.

¹⁶⁷ The watermarks are identified by Doyen-Higuet ('Un manuel grec', 66) as similar to Briquet, 'Monts' 11684 (1400) and V. A. Mošin and S. M. Traljac, *Filigranes des XIIIe et XIVe siècles* (Zagreb, 1957), no. 6305.

¹⁶⁸ See G. Prato, 'Scritture librerie arcaizzanti', *Scrittura e Civiltà*, 3 (1979), 151–93.

¹⁶⁹ Par. gr. 2244 fo. 62^v (the title in Voss. gr. Q 50, fo. 90^r is shorter). Is this intended to resemble a rhyming title in the Arabic style? The poetical sensibility of the compiler of the archetype of the two MSS is evident in the fact that lemmata or captions with twelve or fifteen syllables (the two conventional metres of the Middle and Later Byzantine period) are marked *στίχος*. Cf. M. D. Lauxtermann, *Byzantine Poetry from Pisides to Geometres*, I (Vienna, 2003), 187.

¹⁷⁰ Par. gr. 3068, fo. 21^{r-v}; Omont, 'Catalogue des manuscrits grecs de Guillaume Pelicier', 45.

Devaris¹⁷¹ correspond to entries in inventories of Cardinal Ridolfi's library.¹⁷² From Ridolfi, it was acquired by Piero Strozzi, then passed to Catherine de' Medici, and entered the royal collections during the reign of Henri IV, with whose arms, and the date 1604, the red leather binding is stamped.¹⁷³ The manuscript is not only mangled, but misbound so that folia at the beginning of the manuscript are not in consecutive order.¹⁷⁴ The reconstitution of Hierocles is incomplete, as is the *Epitome*, but the collection of excerpts which constitutes the third part of the RV recension is more extensive in R than in V (Pl. 17).¹⁷⁵

Lugdunensis Vossianus gr. Q 50, or 'V' (210 by 140 mm, 223 folia),¹⁷⁶ is written on Italian paper of the fourteenth century;¹⁷⁷ the manuscript is signed twice by the otherwise unknown scribe Demetrius Drosinos.¹⁷⁸ The text is carelessly written, with many errors of spelling and comprehension, notably in the prefaces of Hierocles (Pl. 18). The illustrations of V are similar in iconography to those of R, but are more crudely executed; several pictures have the addition of fantastical animals. Paint has flaked off from the illustrations, especially at the beginning of the manuscript. Marginal notes and glosses in Italian appear throughout the manuscript. The plain cream leather binding is of the seventeenth century. A note of possession on fo. 2^r (now

¹⁷¹ On the recto of the first flyleaf: 'N^o. 48' (crossed out), 'N^o. 47, octavae, septimae'.

¹⁷² R is not in the catalogue of Ridolfi's library published from Vallicell. C. 42 by Omont, 'Un premier catalogue des manuscrits grecs du cardinal Ridolfi'. It is listed, however, in Par. gr. 3074, partly published by B. de Montfaucon, *Bibliotheca manuscriptorum nova* (Paris, 1739), vol. II, 769, no. 47: 'Hieroclis de equorum curatione, Apsyrty et Hieronis de re eadem, De cometis et alia astronomica'. It also appears in Vat. gr. 1567, fo. 19^v, no. 48 (also numbered 148): *ἱεροκλέους περί ἑπῶν θεραπείας ἀνῦρτου καὶ ἑρῶνος περί τῶν αὐτῶν περί τροφῶν δυνάμεων περί κομητῶν καὶ ἄλλὰ τινα ἀστρονομικά*.

¹⁷³ Miller, 'Notice sur le manuscrit grec N^o 2322', 6–7; Delisle, *Le Cabinet des manuscrits*, 207–12.

¹⁷⁴ The arrangement of these leaves has been reconstructed by Björck, using V for comparison: 'Le Parisinus gr. 2244', 512–13.

¹⁷⁵ Other texts in R, including another version of the *Epitome*, are in different hands and on different papers. They are catalogued in Doyen-Higuet, 'Un manuel grec', I, 66–70.

¹⁷⁶ De Meyier, *Bibliotheca Universitatis Leidensis, Codices Manuscripti*, VI: *Codices Vossiani Graeci et Miscellanei* (Leiden, 1955), 158–9.

¹⁷⁷ The watermarks are identified by de Meyier and Doyen-Higuet as Briquet, 'Cloche' 3934 (1345) and Mošin 2831 (1354); Briquet, 'Colonne' 4345 (1338) and Mošin 3111 (1338–73); Briquet, 'Colonne' 4347 (1353) and Mošin 3114 (1336); and Briquet, 'Cruche' 12475 (1336); 'Un manuel grec', 57–8. Doyen-Higuet, *ibid.*, and 'Contribution à l'étude des manuscrits illustrés', 80, points out the inconsistency between the dating of these watermarks and the dating of the MS to the 15th c. in de Meyier's catalogue; the discrepancy has since been corrected in the Universiteitsbibliotheek copy of the catalogue, but not in the copy of the catalogue-entry pasted into the MS itself.

¹⁷⁸ Fo. 144^v: *πληρώθη τὸ παρὸν ἰπποιατροσώφην διὰ χειρὸς ἐμοῦ Δημητρίου τοῦ Δρωσινοῦ*; fo. 223^r: *ἐπληρώθη(η) διὰ χειρὸς Δημητρίου τοῦ Δρωσινοῦ*. See Vogel and Gardthausen, *Die griechischen Schreiber*, 101.

erased) once indicated that the book belonged to Pierre Michon Bourdelot (b. 1610),¹⁷⁹ physician of Queen Christina of Sweden (r. 1650–4) between 1651 and 1653. V also appears in the catalogue of Bourdelot's manuscripts in Lugdunensis Vossianus lat. O 11.¹⁸⁰ Bourdelot, who had inherited the library (and adopted the surname) of his uncle, the Hellenist Jean Bourdelot, gave the collection of 370 manuscripts to the queen.¹⁸¹ The manuscript was among those given to Isaac Voss (1618–89) from the queen's collection in compensation after his library had become inextricably mixed up with hers.¹⁸² Voss arrived in England in 1670, evidently bringing the manuscript with him: it was collated against Isaac Casaubon's copy of Grynaeus' edition of the *Hippiatrica* in 1673,¹⁸³ and used by Needham in his 1704 edition of the *Geoponica*.¹⁸⁴ Voss's manuscripts were acquired by Leiden University in 1710. V contains a slightly abridged version of the text in R, but has the advantage of being intact. The text begins with the reconstitution of Hierocles in two books; these are followed by the collection of miscellaneous excerpts as in R (Pl. 19), and by one version of the *Epitome*. Fewer of the excerpts from Apsytus and Tiberius are present in V, and the spells are abbreviated. A copy of V made by Bussemaker in 1862 is in the Bibliothèque nationale in Paris.¹⁸⁵

The five principal recensions of the *Hippiatrica*, M, B, C, L, and RV, based on a core of the same veterinary texts, nevertheless differ considerably from one another in organization and character. The following stemma, based upon that of Björck,¹⁸⁶ depicts their relationships. The *Epitome* has an exceedingly complicated transmission of its own, which does not concern us here.¹⁸⁷

¹⁷⁹ Fo. 2^r. See K. A. de Meyier, 'Notes sur quelques manuscrits de Pierre Bourdelot conservés à Leyde', *Scriptorium*, 3 (1949), 259.

¹⁸⁰ Fo. 4^r, no. 28: 'Hippiatrosophion sapientis Rhetoris Hieraclis [*sic*], Hippocratis, et sapientis Galeni. cum figuris'; see H. Omont, 'Catalogue des manuscrits de Jean et Pierre Bourdelot, médecins Parisiens', *Revue des Bibliothèques*, 1 (1891), 86.

¹⁸¹ F. F. Blok, *Isaac Vossius and his Circle: His Life until his Farewell to Queen Christina of Sweden, 1618–1655* (Groningen, 2000), 378–80.

¹⁸² F. F. Blok, *Contributions to the History of Isaac Voss' Library* (Amsterdam and London, 1974), 24–5. A strip of paper printed 'Ex Bibliotheca Viri Illust. Isaaci Vossii' is pasted onto fo. 1^r.

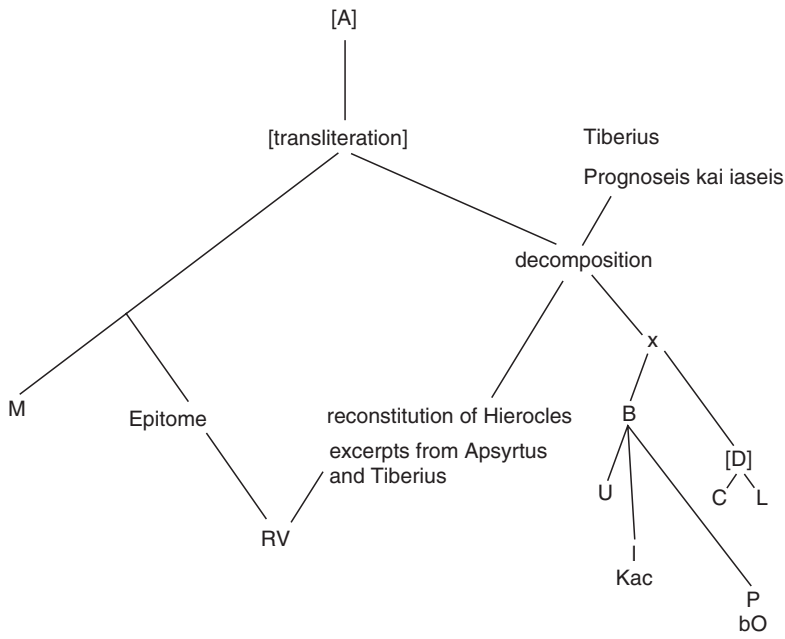
¹⁸³ British Library 779 e. 4.

¹⁸⁴ Γεωπονικά ... p. xxii and notes to ch. XVI, 416 ff. Voss had come to England as protégé of John Pearson, master of Trinity College, Cambridge, and later bishop of Chester; Pearson is quoted by Needham in the introduction to the *Geoponica*, p. v.

¹⁸⁵ H. Omont, *Inventaire sommaire des manuscrits du supplément grec*, no. 588.

¹⁸⁶ 'Zum CHG', 29 and 'Le Parisinus gr. 2244', 521.

¹⁸⁷ This transmission is analysed by Doyen-Higuet, 'Un manuel grec', I, 146–7.



Editions and Translations of the Text

THE *Hippiatrica* first appeared in print in a Latin translation by Jean Ruel (Ruellius), published in Paris by Simon de Colines in 1530.¹ Ruel (1474–1537), a native of Soissons, was dean of the faculty of medicine in Paris and personal physician to King François I. He had previously made a Latin translation of the *De materia medica* of Dioscorides (Paris, H. Estienne, 1516), an edition that was reprinted many times: the Hellenist Guillaume Budé called him ‘l’aigle des interprètes’.² Ruel also produced editions of Celsus and John Actuarius; the plant genus *Ruellia* is named after him. The title of Ruel’s translation of the veterinary compilation, *Veterinariae medicinae libri II*, initiated an error that would persist in several editions and translations, namely the notion that the text was divided into two books. The source of the error was, no doubt, a manuscript in which Hierocles’ prooimion was treated as the beginning of the second section of the compilation. Which manuscript did Ruel use? Miller suggested that the translation was made from Parisinus gr. 2245 and another, unknown, copy.³ But d’Asola’s library, including (presumably) Parisinus gr. 2245, entered the French royal collections only after 1542,⁴ well after Ruel published his translation. Furthermore, K. Hoppe has shown that Ruel used a text different from that of P, one which ends earlier, and also has a note at the end describing the Corsican practice of cutting out the tongues of horses to stop their neighs. British Library Additional 5108 and Corsini 43. D. 32, unknown to Hoppe, are closer to Ruel’s text than is P. Evidently a manuscript of this family was used as the basis for the translation; the source of the manuscript may well have been Janus Lascaris, who, as we have seen, is associated with this family of the text. An epigram by Lascaris in praise of Ruel, in Latin elegiacs, appears on fo. ii^v of Ruel’s edition (Pl. 20).⁵ The same allusion to Plutarch’s Life of Cicero that features in the epigram on Ruel was apparently also used by Lascaris to

¹ *Veterinariae medicinae libri II, Iohanne Ruellio Suessionensi interprete.*

² P. Jovet and J. C. Mallet, ‘Ruel, Jean’, in C. C. Gillispie (ed.), *Dictionary of Scientific Biography*, XI (New York, 1975), 594–5.

³ ‘Notice sur le manuscrit grec N^o 2322’, 7.

⁴ Cataldi-Palau, *Gian Francesco d’Asola*, 386.

⁵ The epigram is reprinted in Legrand, *Bibliographie hellénique*, I, CLXII; III, 334; Knös, *Un ambassadeur*, 202.

praise his friend and correspondent Guillaume Budé.⁶ Lascaris had a connection to Ruel's (and Budé's) patron François I, having been entrusted by Pope Leo X with a diplomatic mission to the French king when the latter was campaigning in Italy in 1515. In 1518 Lascaris also went to France.⁷ The translation of the *Hippiatrica* was apparently commissioned by François I;⁸ it is a handsome in-folio volume with a woodcut frontispiece depicting the monarch on horseback. The book begins with Ruel's preface, addressed to the king, and containing a short encomium of the horse; next follows a list of authors, the epigram by Lascaris (see Pl. 20), a table of contents listing each excerpt and its author, and a glossary of Greek and Latin medical terms. After the text follow metrological passages. A number of excerpts in Ruel's text have no parallel in Greek manuscripts of the B recension or in Grynaeus. The additions are not concealed: both the list of authors on p. ii^v and the table of contents include, after Apsyrtus, Hierocles, Theomnestus, Pelagonius, Anatolius, Tiberius, Eumelus, Archedemus, Hippocrates, Aemilius Hispanus, Litorius Beneventanus, and Himerius—as in the manuscripts I, K, a, and c, and the list of authors introduced to the West by Lascaris—the names of Africanus, Didymus, Diophanes, Pamphilus, and Mago of Carthage as well. These additions were identified by Hoppe as borrowings from the Greek *Geoponica*, translated into Latin with the aid of analogous passages in Varro and Columella.⁹ In fact, as Hoppe has demonstrated, the Latin agricultural writers are used by Ruel throughout to translate the Greek hippiatric authors. We shall see that Pelagonius had used a similar technique a thousand years earlier.

The Greek text, edited by Simon Griner (Grynaeus), appeared in 1537, in a modest quarto volume published in Basel by Johann Walder under the title *Τῶν ἱππιατρικῶν βιβλία δύο* [*sic*]: *Veterinariae medicinae libri duo, a Ioanne*

⁵ (contd) Migravit quondam facundia, teste Molone,
 Graecorum, in Latium. vector erat Cicero.
 Te duce quod revocas orco, et qui praedita cernunt
 Scripta tua eximiis dotibus ingenii,
 Hi tibi erunt testes medicinam docte Ruelli
 Migrasse ad Francos, eloquium, et sophiam.

⁶ According to Le Roy's *Vita G. Budaei* (1540; quoted in Legrand, *Bibliographie hellénique*, I, CXLIV). A letter of Budé to Lascaris asks for copies of works by Galen: Legrand, *Bibliographie hellénique*, II, 331–3.

⁷ Lascaris' letters of introduction from Leo X to the French king are in Legrand, *Bibliographie hellénique*, II, 334–5; cf. Knös, *Un ambassadeur*, 144–5.

⁸ See Ruel's preface, fo. ii^r: 'cum mihi curam delegasti vertendi in latinum sermonem Veterinariam medicinam, iampridem multis authoribus Graecis diligenter elucubratam.'

⁹ K. Hoppe, 'J. Du Rueils lateinische Übersetzung der griechischen Hippiatriker: Eine Quellenanalyse,' *Veterinärhistorisches Jahrbuch*, 2 (1926), 29–64. Ruel's annotated manuscript of the *Geoponica* is now in Berlin: Berol. 119 (Phillipps 1523 = Meerman 213 = Clermont 309); Studemund and Cohn, *Verzeichniss der griechischen HSS*, 48; Munby, *The Phillipps Manuscripts*, 18.

Ruellio Suessionensi olim quidem latinitate donati, nunc vero iidem sua, hoc est Graeca, lingua primum in lucem aediti. The title of the text refers to Ruel (Grynaeus is not named at all), and Hoppe concluded from collation of the two texts that Grynaeus used the same manuscript as had Ruel.¹⁰ The text is close to that of Additional 5108.¹¹ Grynaeus (1493–1541), a theologian and classicist who drew his pseudonym from an epithet of Apollo, was professor of Greek and Latin in Heidelberg and later in Basel; he is perhaps best known for the discovery of a manuscript containing five books of Livy.¹² Grynaeus' preface to the *Hippiatrica*, dedicated to John Zobelus, says little about the text, but much in praise of the horse.¹³ Grynaeus reproduces the list of authors from Ruel's edition, even including the names of Didymus, Diophanes, and Pamphilus—sources added by Ruel to his translation, but which do not figure in Grynaeus' text (Pl. 21).¹⁴ The text ends at same place, and is followed by the note on Corsican practices for silencing horses.¹⁵ None of the metrological material is present.

Two translations were made on the basis of Grynaeus' edition. The first, into Italian, was published by Michele Tramezzino, and entitled *Opera della medicina de' cavalli composta da diversi antichi scrittori, et a commune utilita di greco in buona lingua volgare ridotta* (Venice, 1543; repr. 1548, 1559).¹⁶ The other, in French, was made by Jean Massé, *L'Art vétérinaire, ou grande mareschallerie* (Paris, Charles Perier, 1563). Massé, who describes himself as 'médecin ordinaire et domestique de feu messire François de Dinteuille Evesque d'Aucerre', dedicates the work to the stablemaster to the late King Henri (i.e. Henri IV).¹⁷ A German translation of Ruel's Latin was made by

¹⁰ Hoppe, 'J. Du Rueils lateinische Übersetzung'.

¹¹ Some of the alternate readings in the margin of Add. 5108 are printed as marginalia in Grynaeus' edition, e.g. Add. 5108, fo. 30^r, at B11.37, *CHG* I p. 69 προσπασθείσα τῷ ὀφθαλμῷ, (same text as in B) has in the margin: Γρ(άφεται) προσπλασθείσα, which also appears in the margin in Grynaeus p. 48. Add. 5108, fo. 35^r, at B14.9, *CHG* I p. 82, where the text is the same as Grynaeus but different from that of B: ἡ παιδοποιῖα ἀρίστη, has in marg. καλλίστη, which is the reading of B, and also appears in the margin in Grynaeus, p. 56. But some of the readings in the margins of Add. 5108 are incorporated into Grynaeus' text, with the reading of Add. 5108 in the margin, e.g. Add. 5108, fo. 35^r has κλωνίῳ in the text, as in B14.10, *CHG* I p. 83, and ὀθωνίῳ in the margin; while Grynaeus, p. 56, has the reverse.

¹² K. Bursian in *Allgemeine Deutsche Biographie*, 9 (Leipzig, 1879), 72–3; J. E. Sandys, *A History of Classical Scholarship*, II (repr. New York and London 1967), 263.

¹³ On Grynaeus' student Zobelus, see F. Hieronymus, *Griechischer Geist aus Basler Pressen* (Basel, 1992), no. 363. Grynaeus also contributed the preface to Brassicanus' 1539 *editio princeps* of the *Geponica*. On early editions of antique technical manuals, see G. Oestreich, 'Die antike Literatur als Vorbild der praktischen Wissenschaften im 16. und 17. Jahrhundert', in R. R. Bolgar (ed.), *Classical Influences on European Culture, A.D. 1500–1700* (Cambridge, 1976), 315–24.

¹⁴ As noted by E. Miller, 'Notice sur le MS 2322', 3.

¹⁵ B130.184, *CHG* I p. 436.

¹⁶ Tramezzino also published the veterinary work of Lorenzo Rusio (Venice, 1548). This Italian translation is different from that in Paris. ital. 58.

¹⁷ Fos. 3^r–4^r.

Gregor Zechendörfer (Nuremberg, 1571), with the title *Zwei nützliche sehr gute Bucher von allerley Gebrechen und Krankheiten, damit die Rosse Maulesel u.s.w. geplagt sind*.

Although a new edition of the *Hippiatrica* was to be included in the *Collection des médecins grecs et latins* published under the auspices of Charles Daremberg,¹⁸ that project was never completed. Handwritten copies of the Cambridge, London, and Leiden manuscripts executed to this end by U. C. Bussemaker in the 1850s–1860s, as well as a copy of Grynæus' edition collated with the Berlin manuscript were deposited in the Bibliothèque nationale in Paris.¹⁹

The Teubner edition, in two volumes (1924 and 1927) is the work of Eugen Oder and Karl Hoppe, students of Usener and Bücheler.²⁰ Oder began the preparation of a new edition in 1890, at Usener's instigation, after the acquisition by the then Royal Library in Berlin of Phillips 1538.²¹ In the meantime, Oder was also called upon to produce an edition of the newly discovered *Mulomedicina Chironis* in time for that text to be included in the *Thesaurus Linguae Latinae*.²² Hoppe, who aided Oder in the edition of the Latin veterinary compilation, continued to collaborate with him on the Greek text. Hoppe assumed responsibility for the indices (some of which were unfortunately not published) and the texts of volume II, and completed the preface left unfinished at Oder's death.²³

The shortcomings of the Teubner edition are amply excused in view of the unfavourable circumstances surrounding the appearance of the book, not only the outbreak of the First World War, but also the ill-health of Oder, who died as the second volume was in press.²⁴ One may regret in particular the absence of a complete census of manuscripts (for example, Par. gr. 2244,

¹⁸ Announcement by Daremberg: 'Plan de la Collection des médecins grecs et latins', in C. Daremberg and U. C. Bussemaker, *Œuvres d'Oribase*, I (Paris, 1851), pp. xli–xlii; 'Notices et extraits des manuscrits médicaux grecs, latins, et français des principales bibliothèques de l'Europe', in *Archives des missions scientifiques et littéraires*, II (Paris, 1853), 171; also *Archives des missions scientifiques et littéraires*, III (1854), 47 ff.

¹⁹ Suppl. gr. 573 (copied in 1857, Emmanuel College 251 (III. 19)), 580 (made in 1861, London, Sloane 745), 588 (copied in 1862, Leiden, Voss. Q 50); 581 (Grynæus). According to Costomiris, 'Études', 62, there is another copy by Daremberg in the Académie de la médecine in Paris.

²⁰ W. Rieck, 'Eugen Oder †', *Veterinärhistorische Mitteilungen*, 6 (1926), 21–4; R. Froehner, 'Karl Hoppe zum 70. Geburtstag', *Beiträge zur Geschichte der Veterinärmedizin*, 1 (1938), 191–2; also M. Wellmann's review of *CHG I* in *Gnomon*, 2 (1926), 235–8.

²¹ See *CHG II* p. v.

²² *Mulomedicina Chironis*, p. vi.

²³ *CHG II* p. v. Froehner (above, n. 20) notes that Hoppe's contribution was greater than is implied in the preface to *CHG II*.

²⁴ See *CHG I* pp. v–vi; *CHG II* pp. v, xvi; Oder, 'De hippiatricorum codice Cantabrigiensis', 53.

which appears in a few places in the apparatus, is not mentioned elsewhere), or tables of contents and concordance for the various recensions and for individual authors in the compilation.

A more serious obstacle to understanding the transmission of the compilation is that the principal text presented in the Teubner edition is that of the B recension, what one might call the 'metaphrastic' version, in which the styles of the different authors have been obscured, and their names in many cases detached from the excerpts by the reworking of the tenth-century editors. The edition of B is very faithful, completely superseding Grynaeus' edition. Lacunae in B (where folia are missing or ornaments cut out) are restored using Phillipps 1539 (b), Par. gr. 2245 (P), and the edition of Grynaeus, accorded the status of a manuscript (g). Although the manuscripts O, I, and N are listed in the preface to volume II, they were not used for the edition. That the text of M is in many places fuller than that of the B recension had been pointed out by Miller and Maximilian Ihm (who edited Pelagonius for the Teubner series in 1892); Oder and Hoppe were well aware of this fact.²⁵ The central position accorded nevertheless to Phillipps 1538, whose folio numbers appear in the margins of the text, may be explained in part by the antiquity and splendour of that manuscript, and its presence in Berlin; and in part by the fact that political circumstances rendered the other manuscripts difficult of access to the German scholars. Considerations of economy, in that turbulent period, also seem to have dictated the eclectic method of presenting the other recensions.²⁶

Those passages of B that are also present in M are indicated with the excerpt-number of the M recension in Greek (alphabetic) numerals in the margin of the page. The readings of M are for the most part printed as variants (with no siglum) in the apparatus to the later text of B. Significant additions from M (e.g. the second half of Apsyrtus' preface, and the details of Theomnestus' crossing of the Alps) are inserted in brackets into the text of B; other passages of M omitted from B or altered beyond recognition by stylistic reworking (in particular many passages of Hippocrates), are printed separately in the second volume of the Teubner edition, along with other passages not present in B (*Hippiatrica Parisina*, pp. 1–114). The *πίναξ* of M is edited in volume II with great concision: though the titles of excerpts printed as part of the B recension in volume I are listed, titles of excerpts printed in volume II are omitted and only their numbers given. The text of C is printed only if it is not present in B or M (*Hippiatrica Cantabrigiensia* in volume II, pp. 115–252); L is represented only where different

²⁵ M. Ihm 'Die Hippiatrica', *Rh. Mus.* 47 (1892) 312–18; *CHG* I p. v.

²⁶ Cf. *CHG* I p. vi, *CHG* II p. xxix.

from C (*Additamenta Londinensia*, pp. 253–71), and the same process of elimination determined the selection of excerpts from V (*Excerpta Lugdunensia*, pp. 272–313).²⁷ The ‘Corpus of Greek Hippiatrica’ of the Teubner edition thus consists of the texts of five recensions of the *Hippiatrica*, more or less inextricably entwined. The text of the *Hippiatrica* has been entered in the *Thesaurus Linguae Graecae* from the Teubner edition, but the method of the edition makes significant analysis of the text by electronic means virtually impossible.

A certain amount of specialized material has been extracted from the *Hippiatrica* and edited separately. Tables of weights and measures have been published by Michael Neandrus of Joachimsthal (Basel, 1555),²⁸ and by F. Hultsch.²⁹ The spells of the M recension are included in R. Heim’s collection of Greek and Latin magical incantations.³⁰ The short passage from Simon of Athens in C, first published by Daremberg, has been re-edited no fewer than eight times, nearly always without reference to the context in which it is preserved.³¹ Excerpts attributed to Julius Africanus in the Cambridge manuscript of the *Hippiatrica* were republished from the Teubner edition by Vieillefond, with a clear discussion of the transmission of the text.³² F. Speranza has published passages attributed to Mago or Cassius by the hippiatric authors among the fragments of Mago in his collection of Roman agricultural writers.³³

²⁷ The strategy of the edition is explained in CHG II p. xxix. Criticism of this method by e.g. Björck, ‘Apsyrtus’, 32; K.-D. Fischer, ‘Two Notes on the *Hippiatrica*’, GRBS 20 (1979), 372.

²⁸ *Σύνοψις mensurarum et ponderum ponderationisque mensurabilium secundum Romanos, Athenienses, γεωργούς, καὶ ἰπποϊάτρος* (Basel, 1555).

²⁹ *Metrologicorum scriptorum reliquiae*, I–II (Leipzig, 1864–6), 129 ff.; *Griechische und römische Metrologie* (Berlin, 1882), 634.

³⁰ ‘Incantamenta magica graeca latina’, *Jahrbücher für classische Philologie*, Supplementband XIX (Leipzig, 1893), 463–576.

³¹ CHG II pp. 228–31; other editions listed in Widdra, *Xenophontis De re equestri*, p. 40.

³² Vieillefond, *Les Cestes*, ch. III, pp. 215–55. Vieillefond also consulted Bussemaker’s copies of C and L in the Bibliothèque nationale; see p. 219.

³³ *Scriptorum romanorum de re rustica reliquiae*, 75–119.

Studies of the *Hippiatrica*

THE *Hippiatrica* has been in print for more than four and a half centuries, but has attracted relatively little scholarly attention in this time.¹ That is not to say the text has languished unread. Isaac Casaubon's copy of Grynaeus' edition bears copious annotations in his hand, including the deduction that Hierocles was not the compiler of the *Hippiatrica*.² Nicolas Rigault (Rigaltius), Casaubon's successor as one of the keepers of the royal library in Paris, pointed out in the introduction to his edition of the Greek works on falconry that the *Hippiatrica* is also an anonymous compilation.³ Peter Needham, as we have noted, compared Grynaeus' text to that of the Cambridge and Leiden manuscripts in his 1704 edition of the *Geoponica*.

The *Hippiatrica* was recognized early by lexicographers as a rich source of obscure vocabulary: Guillaume Morel (Morelius) used the text as a source for his *Verborum Latinorum cum Graecis Gallicisque coniunctorum commentarii* (Paris, 1588). Grynaeus' edition was also used by Jan van Meurs (Meursius), who included many words of Latin origin from the *Hippiatrica* in his *Glossarium graecobarbarum* (Leiden, 1614); and by Charles Du Fresne Du Cange, who consulted in addition a manuscript of the *Epitome* in Paris for his *Glossarium ad scriptores mediae et infimae Graecitatis* (Lyon, 1688).⁴ In LSJ (ninth edition, 1940; repr. 1994) the *Hippiatrica* appears frequently, but with references inconsistently to Grynaeus' edition and to that of Oder and Hoppe.

It is to be regretted that Eugen Oder and Karl Hoppe, who were probably better acquainted with the *Hippiatrica* than anyone before or after them, should have treated the history of the text only in the brief introduction to the second volume of the Teubner edition.⁵ Eugen Oder's articles on the

¹ See A.-M. Doyen-Higuet, 'Les Textes d'hippiatrie grecque, bilan et perspectives', *L'Antiquité classique*, 50 (1981), 258–73; 'The *Hippiatrica* and Byzantine Veterinary Medicine', *DOP* 38 (1984), 111–20.

² British Library 779. e. 4, p. 236.

³ *ΙΕΡΑΚΟΣΟΦΙΟΝ, Rei accipitrariae scriptores nunc primum editi. Accessit KYNOΣΟΦΙΟΝ, Liber de cura canum* (Paris, 1612), p. e iiiff.

⁴ Cod. Reg. 3496, now Parisinus gr. 2091; listed in the index of authors as *Hipposophium*, p. 36.

⁵ *CHG* II pp. vi–xxix.

Geoponica touch briefly on the *Hippiatrica*, referring to the text of Grynaeus' edition, the only one available at the time.⁶ His edition of chapters on the selection, breeding, and care of the horse from the Cambridge manuscript also identifies the relation of these chapters to similar material in Greek and Latin agricultural texts, and identifies the common source as Cassius Dionysius.⁷ Other articles focus on individual veterinary writers: Oder wrote briefly on Apsyrtus and Theomnestus,⁸ while Hoppe devoted two studies to Pelagonius,⁹ and, as we have seen, elucidated the nature of Ruel's translation and its relation to the Greek text.

The first analysis of the texts presented in the modern edition was undertaken by the Swedish philologist Gudmund Björck. Björck's dissertation, 'Zum *Corpus hippiatricorum Graecorum*', published in 1932, remains the only monograph devoted to the compilation and to its Greek sources;¹⁰ while his three other articles on the *Hippiatrica* contribute substantially to our understanding of the text. In the first Björck challenges the dates accepted for Apsyrtus and Theomnestus, examines the authenticity of the excerpts attributed to Julius Africanus, draws attention to magical texts, and lists manuscripts containing translations of the *Hippiatrica* into the languages of the medieval West.¹¹ A second is devoted to the collection of texts in Parisinus graecus 2244;¹² in the third Björck noted the existence of Arabic veterinary texts which seem to be related to the Greek.¹³ Björck, professor of Greek at Uppsala and editor of *Eranos*, died from a riding accident in 1955.¹⁴ Any study of the *Hippiatrica*, not least the present one, builds upon the foundations laid by his work.

The vernacular *Epitome* of the compilation is the focus of the most recent study of the *Hippiatrica*, that undertaken by A.-M. Doyen-Higuet, a classicist at the University of Namur, and the daughter of a veterinarian. Her unpublished doctoral thesis (Louvain, 1983) adds to the 'corpus' of hippiatric texts

⁶ 'Beiträge zur Geschichte der Landwirthschaft bei den Griechen I–II', *Rh. Mus.* 45 (1890), 58–99 and 212–22; III, *Rh. Mus.* 48 (1893), 1–40.

⁷ *Anecdota Cantabrigiensia, Wissenschaftliche Beilage zum Jahresbericht des Friedrichswerderschen Gymnasiums zu Berlin* (Berlin, 1896).

⁸ 'Winterlicher Alpenübergang eines römischen Heeres nach der Schilderung eines griechischen Veterinärs', *Veterinärhistorisches Jahrbuch*, 1 (1925), 48–50; 'Apsyrtus: Lebensbild des bedeutendsten altgriechischen Veterinärs', *Veterinärhistorisches Jahrbuch*, 2 (1926), 121–36.

⁹ 'Pelagoniusstudien', *Veterinärhistorisches Jahrbuch*, 4 (1928), 1–40; 'Die Commenta artis mulomedicinae des Pelagonius', *Veterinärhistorisches Jahrbuch*, 3 (1927), 189–219.

¹⁰ 'Zum *Corpus hippiatricorum graecorum. Beiträge zur antiken Tierheilkunde*', *Uppsala Universitets Årsskrift* (1932), 1–91.

¹¹ 'Apsyrtus, Julius Africanus, et l'hippiatrique grecque', *Uppsala Universitets Årsskrift* (1944. 4).

¹² 'Le Parisinus graecus 2244 et l'art vétérinaire grec', *REG* 48 (1935), 505–24.

¹³ 'Griechische Pferdeheilkunde in arabischer Überlieferung', *Le monde oriental*, 30 (1936), 1–12.

¹⁴ See the frontispiece to *Eranos*, 54 (1956).

with the edition, in parallel, of five versions of the *Epitome*. The edition includes a French translation of each version, as well as commentary on aspects of pathology and medical treatments.¹⁵

The Latin text of Pelagonius has attracted more attention than the Greek compilation. Ihm's edition¹⁶ was replaced with a new Teubner text by K.-D. Fischer of the Medizinhistorisches Institut of the University of Mainz.¹⁷ The appearance of this edition, and of a concordance to accompany it, was followed by the discovery, by P.-P. Corsetti, of a new manuscript of the text which provides new material and different readings.¹⁸ Both texts were used by J. N. Adams for a massive study of the language of Pelagonius, which also treats the role of the veterinarian in antique society, the use of magic, and other aspects of veterinary practice in antiquity.¹⁹

Though the *Hippiatrica* is a source of evidence not only for the vocabulary, but also for the grammar of Late Antique technical prose, the complexity of its transmission obscures the sources and dates of words and phrases. For example, H. J. Cadbury, in a light-hearted article comparing the language of the veterinary writers to that of St Luke the Evangelist (and physician), cites the tenth-century B recension as evidence of Late Antique usages, while rejecting 'the inferior Paris MS'.²⁰ The scattered allusions to the *Hippiatrica* collected by Björck,²¹ a few comments by Strömberg on words and usages,²² and two short articles by K.-D. Fischer²³ can scarcely match the volume of literature devoted to the Latin veterinary texts, the *Mulomedicina Chironis* and Pelagonius.²⁴

Attempts to exploit the *Hippiatrica* for evidence of veterinary practice in antiquity have been similarly (though often unwittingly) impeded by

¹⁵ 'Un manuel grec de médecine vétérinaire' (typescript) (Louvain-la-Neuve, 1983).

¹⁶ *Pelagonii Artis veterinariae quae extant* (Leipzig, 1892).

¹⁷ *Pelagonius, Ars Veterinaria* (Leipzig, 1980); K.-D. Fischer and D. Najock, *In Pelagonii Artem Veterinariam Concordantiae* (Hildesheim, 1983).

¹⁸ 'Un nouveau témoin de l'*Ars veterinaria* de Pelagonius', *Revue d'histoire des textes*, 19 (1989), 31–56.

¹⁹ *Pelagonius and Latin Veterinary Terminology in the Roman Empire* (Leiden, 1995).

²⁰ 'Lexical Notes on Luke-Acts V: Luke and the Horse-Doctors', *Journal of Biblical Literature*, 52 (1933), 57.

²¹ 'Apsyrtus, Julius Africanus', 53. S. Linnér, 'Syntactische und lexikalische Studien zum *Historia Lausiaca* des Palladios', diss. (Uppsala, 1943), 32; L. Radermacher, *Neutestamentliche Grammatik*, 2nd edn. (Tübingen, 1925), 102; G. Björck, *HN ΔΙΔΑΣΚΩΝ: Die periphrastischen Konstruktionen im Griechischen* (Uppsala, 1940), 110.

²² *Griechische Wortstudien: Untersuchungen zur Benennung von Tieren, Pflanzen, Körperteilen, und Krankheiten* (Göteborg, 1944) 12 n. 1; 95, 100–1.

²³ 'Φλέμυα und φλυμέλια', *Hermes*, 107 (1975), 495; 'Two Notes on the *Hippiatrica*', *GRBS* 20 (1979), 371–9.

²⁴ Bibliography in Fischer, 'Ancient Veterinary Medicine', 207–8.

imperfect understanding of the transmission of the texts. Mention should be made of the dissertation of H. J. Sévilla (Alfort, 1924), published as a series of articles in veterinary journals; and of the analysis by L. Moulé in his *Histoire de la médecine vétérinaire* and several articles.²⁵ Veterinary students of the Institut für Palaeoanatomie, Domestikationsforschung und Geschichte der Tiermedizin in Munich have translated sections of the *Hippiatrica*, *Geoponica*, and *Mulomedicina Chironis* as theses.²⁶ A recent veterinary thesis by D. A. J. Menard, supervised by A.-M. Doyen-Higuet, focuses on descriptions of the conformation of the horse.²⁷

²⁵ Listed in Doyen-Higuet, 'L'accouplement et la reproduction des équidés dans les textes hippiatriques grecs', *Annales de Médecine Vétérinaire*, 25 (1981), 552–3 n. 2; I am grateful to Dr Doyen-Higuet for providing me with copies of the veterinary articles.

²⁶ For a description of this project, and a list of titles, see Fischer, 'Ancient Veterinary Medicine', 203 and 206–7, to which may be added the dissertations of G. Unterholzer (1988) and T. Pfister (1990).

²⁷ 'Traduction et commentaire de fragments des *Hippiatrica* (Apsyrtos, Theomnestos)' (Alfort, 2001). We may mention in passing the neglect of the evidence of the *Hippiatrica* in recent works on the historical roles of the horse. R. H. C. Davis, in *The Medieval Warhorse* (London, 1989), 100, makes only the briefest of references to the Greek texts. Neither A. Hyland's studies of the horse in the Roman world and the Middle Ages (*The Medieval Warhorse from Byzantium to the Crusades* (London, 1994); *Equus: The Horse in the Roman World* (London, 1990); *The Horse in the Middle Ages* (London, 1999)); nor R. E. Walker's essay on Roman veterinary medicine ('Roman Veterinary Medicine', appendix to J. M. C. Toynbee, *Animals in Roman Life and Art* (London, 1973), 303–34) makes use of the evidence of the *Hippiatrica*.

The Form of the *Hippiatrica*

THE *Hippiatrica* belongs to a form of composite text whose origins lie in the scholarly activity of Late Antiquity, and whose purpose is to gather an array of authorities and present them, juxtaposed, for practical purposes of reference or comparison. The form is characterized by a distinctive method of compilation, which consists in the gathering of extracts from different treatises into a single book. Other defining features are the use of sources written by different authors, and the organization of the excerpts according to a consistent principle, for example, by subject, or in chronological or alphabetical order. These methods draw upon various techniques devised to aid in the analysis of literary or other traditional texts: the collecting of related texts into a corpus, the arranging of texts or excerpts into anthologies, and the *synkrisis* or comparison of texts.¹

The collecting of excerpts was used around the late third and early fourth centuries AD in the disciplines of medicine and the law, technical disciplines which required of their practitioners familiarity with a large volume of traditional literature. The same method of compilation, evidently considered a successful strategy for reducing the number of separate books to be consulted and making their content conveniently accessible, continued to be employed throughout the Byzantine period to create standard works of reference for agriculture, geography, military tactics, poetry, statecraft, zoology, and even history.

The distinction between these excerpt-collections and other types of compilation is not always clear. Although they are often referred to as encyclopaedias, that term also brings to mind works such as those of Varro or Celsus, which encompass many disciplines. Texts like the *Hippiatrica*, on the other hand, confine their focus to a single discipline, but combine the works of many authors. They are closer in character to the individual elements of the encyclopaedias, such as the *Libri medicinae* of Celsus' larger work

¹ See R. Devreesse, 'Chânes exégétiques grecques', *Dictionnaire de la Bible*, Suppl. I (Paris, 1928), cols. 1084–1233; H. Chadwick, 'Some Ancient Anthologies and Florilegia, Pagan and Christian', *Studies in Ancient Christianity* (Aldershot, 2006), Study XIX; F. Focke, 'Synkrisis', *Hermes*, 58 (1923), 327–68.

(c. AD 14–37), and to systematic textbooks such as the *Institutes* of Gaius (c. AD 160),² of which they are an expanded form, with texts of many authors presented in parallel.

Björck, in his analysis of the form of the *Hippiatrica*, defined the text as a ‘collection’, distinct, in his terms, from both a ‘corpus’, in which entire texts are simply appended to one another, and from a ‘compilation’, which he defined as a ‘collection’ to which the compiler adds material or changes of his own.³ These designations, though helpful, are not entirely precise, as Björck himself readily admitted. Moreover, the definitions do not have the advantage of corresponding to common usage in English. ‘Compilation’ is not an inaccurate way of describing the *Hippiatrica*—and the term *compilatio* has long been used to denote the activity of collecting excerpts.⁴ Of course, the term may be applied to florilegia or miscellanies equally well. Even in antiquity, similar images—the weaving of a garland,⁵ the honey-bee’s collection of nectar from many different flowers,⁶ the *ἑρᾶνος* or banquet assembled from contributions by each participant⁷—were used to describe the compilation of different types of texts, whether poems, medical manuals, or scholarly commentaries on literature or scripture. And similar titles, *ἐκλογαί*, *συλλογαί*, *συναγωγαί*, *πανδέκται*, were given to compilations in diverse disciplines, whose purpose and structure might vary.⁸

Excerpt-collections like the *Hippiatrica* have much in common with miscellanies—the *πέπλοι*, *λειμώνες*, *στρωματεῖς*, *κεστοί* assembled by Clement of Alexandria, Aelian, Aulus Gellius, Julius Africanus, and others—in concept

² M. Fuhrmann, *Das systematische Lehrbuch: ein Beitrag zur Geschichte der Wissenschaften in der Antike* (Göttingen, 1960).

³ ‘Apsyrtus, Julius Africanus’, 26–35. Björck’s terminology has been adopted by Doyen-Higuet and Fischer, e.g. ‘Ancient Veterinary Medicine’, 195–7.

⁴ On the term *compilatio* in the medieval West, see M. B. Parkes, ‘The Influence of the Concepts of *Ordinatio* and *Compilatio* on the Development of the Book’, in J. J. G. Alexander and M. T. Gibson (eds.), *Medieval Learning and Literature*, (Oxford, 1976), 127–30. The definition by Bonaventura (13th c.) of the work of a *compilator* who adds nothing of his own is analogous to Björck’s ‘collection’ and that of a *commentator* to Björck’s ‘compilation’.

⁵ e.g. Meleager’s preface to his *Garland*, AP IV.1; that of Philip, modelled on Meleager, AP IV.2. M. Richard gives a list of instances in Latin: ‘Florilèges spirituels grecs’, *Dictionnaire de spiritualité*, 33 (Paris, 1962), cols. 475–572.

⁶ e.g. Agathias’ preface to his anthology, AP IV.3, 103–6; or the anonymous epigram on Oribasius, AP XVI.274.

⁷ Agathias, AP IV.3, 19: *δείπνον ἡρᾶνισμένον*; the verb *ἑρᾶνίζω* is conventionally used, e.g. Procopius of Gaza, proem. of commentary on Genesis, PG 87.1, col. 21: *τὰς καταβεβλημένας ἐκ τῶν Πατέρων καὶ τῶν ἄλλων εἰς τὴν Ὀκτάτευχον ἐξηγήσεις συνελεξάμεθα, ἐξ ὑπομνημάτων καὶ διαφόρων λόγων ταύτας ἑρᾶνισάμενοι*.

⁸ e.g. the medical collection or *Συναγωγαὶ ἱατρικαί* of Oribasius, the legal *Πανδέκται* or *Digesta* of Justinian, or the agricultural *Συναγωγαὶ* of Anatolius of Berytus. Catenae are called *ἐκλογαί* in MSS, *σειρά* being a late usage: Devreesse, ‘Châînes exégétiques’, col. 1088.

and often in content as well. But there is a fundamental contrast between the rigid structure of the former, and in the latter, a studied lack of organization.⁹ Moreover (to name but one example), Aelian's miscellanies are endowed with some degree of stylistic unity, and his allusion to sources is vague at best.¹⁰ Compilations like the *Hippiatrica*, on the other hand, are very much the sum of their component excerpts, which are identified as the work of different authors, and usually edited very little, or simply left in their original form. There is also a difference in purpose: excerpts of information in Aelian's *De natura animalium* and Clement's *Stromateis* are assembled to illustrate, respectively, general themes of the relation of animal morality to that of humans and the relation of Christian doctrine to pagan learning; but the information is presented more for diversion or instructive amusement than for practical reference.

Practical reference appears to have been an important guiding principle in the production of excerpt-collections;¹¹ one may note that legal compilations, such as the *Codex Gregorianus* and *Codex Hermogenianus* (collections of imperial constitutions arranged under subject headings, published in AD 291 and c.295, respectively; the latter by a secretary of Diocletian and Maximian),¹² were made in the form of the codex, more convenient to look things up in than the roll.¹³ Several other contributing factors may be identified. The problem of how to cope with a written tradition of enormous volume is often mentioned in the prefaces of these compilations, as in that of the Theodosian Code (AD 438).¹⁴ Although the allusion (contrasted with the convenience of the work in question) is probably a topos, there is no doubt an element of truth in it as well. In the field of medicine, texts were excerpted and rearranged for practical purposes by Oribasius of Pergamon. In the preface to his *Συναγωγή ἰατρικαί* in seventy books, dedicated to the emperor Julian, and datable to AD 360–3, Oribasius explains that the emperor had

⁹ A. Méhat, *Études sur les 'Stromates' de Clément d'Alexandrie* (Paris, 1966). Cf. Clement, *Strom.* VII.110 and Aelian's statement in the Epilogue to the *NA*. It is telling that the latter text was later rearranged thematically (Laur. Plut. 86. 8).

¹⁰ On the purpose of Aelian's miscellanies, and the difficulty of determining his immediate sources, J. F. Kindstrand, 'Claudius Aelianus und sein Werk', *ANRW* II 34. 4 (Berlin and New York, 1998), cols. 2962 ff.

¹¹ As M. B. Parkes observes about compilations of a later period, 'the *compilatio* derives its value from the authenticity of the *auctoritates* employed, but derives its usefulness from the *ordo* in which the *auctoritates* were arranged'; 'The Influence of the Concepts of *Ordinatio* and *Compilatio*', 128.

¹² L. Wenger, *Die Quellen des römischen Rechts* (Vienna, 1953), 534–6; P. Jörs, 'Codex', *RE* IV. 1 (Stuttgart, 1900), cols. 161–7.

¹³ On the practical advantages of the codex, see C. H. Roberts and T. C. Skeat, *The Birth of the Codex*, (London, 1983), 48–51.

¹⁴ *Copia immensa librorum*, *Cod. Theod., Praef.-Nov. Theod.* I.1; *nubes voluminum*, *ibid.* I.3.

commanded him to search through the works of the greatest medical authors and gather from them the most important and useful points to form a single book.¹⁵ The compilation will be useful because its user can readily find whatever is needed.¹⁶ Oribasius quotes verbatim from his sources, and identifies each passage with a precise system of bibliographic reference, giving not only the name of the author, but also the title of the treatise, and often even the number of the volume from which the passage was drawn, for example: ἐκ τῶν Ἀθηναίου περὶ πυρῶν, ἐκ τοῦ α' λόγου, 'from the work of Athenaeus on grains, from the first chapter'.¹⁷ The system of identification is economical: the author's name is not repeated at the head of subsequent excerpts if they are from the same work. These lemmata and the preface are Oribasius' only contribution: the work is simply a carefully organized dossier of excerpts.¹⁸ Oribasius states in his preface that he does not see the point of duplication, but will simply select the best that has been written on each subject: in this his compilation differs from compilations like the *Hippiatrica*.¹⁹

Another factor, equally significant, is a certain taste for the multiplication of authorities, and for comparison between them.²⁰ *Synkrisis* as a factor in compilation is well illustrated by the so-called *Collatio legum Mosaicarum et Romanarum* (produced between AD 394 and 438), a compilation which, organized into chapters corresponding to the sixth–tenth Commandments, juxtaposes excerpts from the Pentateuch with Roman laws of similar content drawn from the *Codex Gregorianus* and *Codex Hermogenianus*.²¹

¹⁵ Πάντων τῶν ἀρίστων ἱατρῶν . . . τὰ καιριώτατα συναγαγεῖν, καὶ πάντα ὅσα χρησιμεύει πρὸς αὐτὸ τὸ τέλος τῆς ἱατρικῆς, ed. Raeder, I. 1, p. 4. Oribasius, Julian's personal physician, explains that he had earlier assembled extracts from Galen at the emperor's request. Cf. also *Synopsis ad Eustathium*, ed. Raeder, proem. 1: τῶν ἀρίστων ἱατρῶν ὅσα χρήσιμα καὶ ἀναγκαῖα . . . συνήγαγον.

¹⁶ *Synagogai*, ed. Raeder, I. 1, p. 4: χρησιμωτάτην ὑπολαμβάνων ἔσσεσθαι τὴν τοιαύτην συναγωγὴν, τῶν ἐντυγχανόντων ἐτοίμως ἐξευρισκόντων τὸ ἐκάστοτε τοῖς δεομένοις ὠφέλιμον.

¹⁷ *Ibid.* II. 1, p. 7.

¹⁸ It is unlikely that Oribasius invented this method himself; he probably simply adapted a school technique. It may not be irrelevant that his training at Alexandria, described by Eunapius of Sardis (to whom Oribasius dedicated a treatise), appears to have combined rhetoric, i.e. a literary education, and medicine: *Vitae sophistarum* 498–9; cf. B. Baldwin, 'The Career of Oribasius', *Acta Classica*, 18 (1975), 85–97. Oribasius composed shorter treatises, the *Synopsis ad Eustathium* and *Ad Eunapium*, in which no authorities are cited: the prefaces of these simplified, portable texts explain that they were intended for purposes different from that of the great compilation.

¹⁹ *Synagogai*, ed. Raeder, I. 1, p. 4: περιττὸν δὲ νομίσας εἶναι καὶ παντελῶς εὐθες τὸ ἐγγράφειν τὰ αὐτὰ πολλάκις, καὶ τῶν ἀριστα συγγραψάντων καὶ τῶν μὴ ὁμοίως τὸ ἀκριβὲς ἐξεργασμένων, μόνα τὰ τῶν ἁμεινὸν εἰπόντων συνάξω.

²⁰ This taste is also evident in the reports of ancient opinions known as doxography; however, excerpt-collections differ from doxography in that no narrator is interposed: the opinions of authorities are not reported in indirect discourse, but are presented verbatim in the form of excerpts. On doxography, see e.g. D. T. Runia, 'What is Doxography?' in P. J. van der Eijk, *Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity* (Leiden, Boston, Cologne, 1999), 33–55.

²¹ M. Hyamson, *Mosaicarum et Romanarum Legum Collatio* (Oxford, 1913).

Reverence for authority, and a combination of scholarly and practical interest in older texts account for the reuse of older, and even obsolete, material in compilations as opposed to the writing of new manuals. It has been pointed out, for example, that Tribonian and his staff were 'perfectly qualified' to compose new commentaries on the law.²² Instead, they applied the technique of collecting excerpts on a spectacular scale to produce Justinian's *Digesta* or *Πανδέκται*, promulgated in 533. Quite apart from its importance as a literary and historical monument, the *Digest* is a valuable source of information about the process of compilation. Almost every stage of the process—the selection of a canon of authors, the reading and excerpting of treatises, the gathering of excerpts by subject into chapters, editing, and final publication—may be reconstructed from the guidelines set out in the first constitutions, *C. Deo auctore* and *C. Tanta/Δέδωκεν*, and from the decipherment of patterns in the organization of the excerpts.²³ Moreover, the principles of the compilation, outlined at the start, give an indication of the choices made by editors of composite texts: contradiction was to be eliminated rather than permitted by selecting the best authorities rather than comprehensively including all opinions; excerpts were cited more or less verbatim, but could be edited if they contained unacceptable opinions; their origins in separate texts were not, however, concealed. Justinian's compilations were revised in the Middle Byzantine period; they also provided a model for imperially sponsored compilations in other disciplines.

The same desire to assemble authorities, and the same 'scissors and paste' technique of compilation lies behind the formation of composite scholia on classical and juridical texts, and of catenae on the Scriptures. Catenae (the invention of which is conventionally ascribed to Procopius of Gaza in the late fifth or early sixth century) in particular have certain peculiarities which link them with the free-standing excerpt-collections. The authors of the works used to make up a catena are generally identified at the start of each excerpt, which is not always the case with scholia, but is a feature of excerpt-collections. Catenae may be arranged in the margin of a text, but may also stand alone in the centre of the page—the so-called *Breitkatenen*.²⁴ And certain catenae consist of complete collations of the work of two or more

²² F. Schulz, *Roman Legal Science* (Oxford, 1946), 291. Cf. W. Turpin, 'The Purpose of the Roman Law Codes', *ZSS*, 104 (1987), 620–30. On the issue of authority, and reasons for the reuse of earlier material in medieval compilations, see V. Law, *Grammar and Grammarians in the Early Middle Ages* (London and New York, 1997), 175 ff.

²³ A. M. Honoré, *Tribonian* (London, 1978), idem, 'How the Digest Commissioners Worked', *ZSS* 98 (1970), 246–314.

²⁴ M. Faulhaber, 'Katenen und Katenenforschungen', *BZ* 18 (1909), 388; also Devreesse, 'Châînes exégétiques grecques', cols. 1085 ff.

authors; they provide an analogy, as we shall see, to the earliest recension of the *Hippiatrica*.²⁵

The process by which extracts from the texts of different authors are 'amalgamated',²⁶ whether to form scholia, catenae, or free-standing compilations, is the same. It is interesting that evidence for how this amalgamation may have begun has been identified by N. G. Wilson in a manuscript of a medical text, the Vienna Dioscorides (Vind. med. gr. I, c.512), in which parallel passages from Galen's *περὶ κράσεως καὶ δυνάμεως τῶν ἀπλῶν φαρμάκων* and from the herbal of Crateuas are added in several instances at the end of Dioscorides' chapters on plants, in the lower margin of the page, in smaller letters but in the same hand. Excerpts from Galen appear twenty times, and single excerpts from Crateuas six times, but in four instances parallels to Dioscorides are offered from both, so that the opinions of three authors about the plant in question are collected on the page (Pl. 22).²⁷ It may be added that in the Morgan Library Dioscorides (M652, of the tenth century), the same parallel passages from Galen are present, not in the margin, but included in the central column of text, in the same hand and in the same size.²⁸ The transition is marked simply by the lemma, *καὶ γαληνὸς εἰς τὸ αὐτὸ, καὶ γαληνὸς εἰς τὸ αὐτὸ εἶπεν* 'And Galen on the same [subject]; and Galen, on the same subject, said' (Pl. 23).²⁹ This incorporation of parallel passages into the body of the text, although seen here in a manuscript of relatively late date, could be considered an analogous embryonic stage in the formation of an excerpt-collection like the *Hippiatrica*. The additions are made not from commentaries, but from independent treatises: the purpose is not elucidation of the main text, but comparison between the opinions of different authorities. Resemblance to an excerpt-collection is heightened because the titles which precede the passages from Dioscorides (a native of

²⁵ On this type of catena, G. Dorival, *Les Chaînes exégétiques grecques sur les psaumes, contribution à une forme littéraire*, I (Leuven, 1986), 39 ff.

²⁶ The term used by N. G. Wilson, 'A Chapter in the History of Scholia', *CQ*, NS 17 (1967), 244; see also idem, 'The Relation of Text and Commentary in Greek Books', C. Questa and R. Raffaelli (eds), *Atti del Convegno internazionale 'Il Libro e il Testo'* (Urbino, 20–23 sett. 1982), 103–10.

²⁷ e.g. fos. 27^r, 30^r, 40^r. See Wilson, 'Two Notes on Byzantine Scholarship: 1. The Vienna Dioscorides and the History of Scholia', *GRBS* 12 (1971), 557–9. The additions are listed in A. von Premerstein, C. Wessely, J. Mantuani, *De Codicis Dioscuridei Aniciae Iulianae, nunc Vindobonensis Med. Gr. I, historia, forma, scriptura, picturis* (Leiden, 1906), 224–5.

²⁸ The Crateuas passages in the Vienna Dioscorides all fall within the first 40 folia of the manuscript; the beginning of the Morgan Library manuscript (which also contains an alphabetical recension of the text) is mutilated, and the first 57 entries for the letter Alpha have been lost. It is therefore possible that the excerpts from Crateuas were incorporated in the same manner as those from Galen in M652. The Galen excerpts are also limited to the beginning of the text in the Morgan Library MS: none appears after the letter *T*.

²⁹ e.g. fo. 26^r and fo. 21^r.

Anazarba in Cilicia) often contain not only the title of the plant, but an attribution τοῦ ἀναζαρβέως, or ἐκ τοῦ ἀναζαρβέως 'by the Anazarbian' or 'from the work of the Anazarbian'—redundant in an edition of a single author's work, but standard form for the lemmata of a compilation like the *Hippiatrica*.³⁰ The motivation is evidently a desire to have a 'second opinion'.

The structure of the earliest recension of *Hippiatrica*, M, is identical to that of a catena. We shall return to the question of the date at which it was compiled, the compiler's purpose and his methods. These are nowhere explained in the compilation as we have it, but they may be inferred from the character of the sources and the way in which they are presented. We shall now turn to the character of these sources.

³⁰ e.g. fo. 10^r, fo. 9^r. According to M. Wellmann, 'Die Pflanzennamen bei Dioskurides', *Hermes*, 33 (1898), 373, the result is 'kein Dioskurides, sondern eine pharmakologische Compilation'.

The Sources of the *Hippiatrica*

THE *Hippiatrica* is a chorus of many voices: apart from lemmata added by the editor, the compilation is made up entirely of the text of its sources, each of which retains a distinct identity. Some personalities emerge clearly, others are less distinct; but the form of the encyclopaedia, by juxtaposing parallel passages, helps to emphasize similarities and differences between them. The similarities are striking: the treatises belong within the same scientific tradition, a tradition of which the *Hippiatrica* represents a codification. At the same time, the diversity of their opinions is readily apparent, as is that of their language: some texts are coloured by rhetorical artifice, while others are plain-spoken. And the language is throughout a mixed idiom: the single Latin author, Pelagonius, is influenced both by Hellenized ‘medical Latin’ and by the use of Greek by the Roman élite (not least by his preferred model of style, Columella);¹ while the Greek authors use the Latinized Greek of Late Antiquity, characterized by loanwords both in the vocabulary of civic life and in that of everyday life.² The *Hippiatrica* thus provides us with a selection of examples from across the spectrum of veterinary *Fachprosa*.³ Technical terms for procedures, diseases, and anatomy vary from author to author, as, to a lesser extent, do calendars and systems of weights and measures. Some authors write from first-hand experience; all, to some extent, repeat earlier written sources. Nevertheless, when the *Hippiatrica* has been used for evidence of veterinary practice or vocabulary, its text has usually been treated as a single homogeneous entity both in terms of content and of language.⁴

¹ D. R. Langslow, *Medical Latin in the Roman Empire* (Oxford 2000); F. Biville, ‘The Graeco-Romans and Graeco-Latin’, in J. N. Adams, M. Janse, and S. Swain (eds.), *Bilingualism in Ancient Society* (Oxford, 2002), 77–102.

² F. Viscidi, *I prestiti latini nel greco antico e bizantino* (Padua, 1944); cf. R. Browning, *Medieval and Modern Greek* (Cambridge, 1969), 40 ff.; G. Dagron, ‘Aux origines de la civilisation byzantine: Langue de culture et langue d’état’, *Revue historique*, 241 (1969), 55.

³ See L. Rydbeck, *Fachprosa, Vermeintliche Volkssprache, und NT* (Uppsala, 1967).

⁴ In this respect the earlier lexicographers are more precise than the later ones: Meursius and Du Cange attribute words in the *Hippiatrica* to the individual authors of the excerpts in which they appear, while in LSJ and LBG the compilation is cited without any indication of source or recension.

And, with the exception of Pelagonius, the individual sources have received little attention.

Yet the *Hippiatrica* provides the best evidence, and in some cases the only evidence, for these seven little-known authors and their texts: the encyclopaedia appears to have enjoyed success (as did compilations in other disciplines) at the expense of earlier literature, including both the works used as its sources, and those which were left out. One may regret that no Greek veterinary manuals survive independently, for comparison. One may also regret that the *Hippiatrica*, as we have it, has no introduction offering information about the antecedents, development, or extent of the hippiatric genre; nor any description of its own component texts (along the lines, say, of the introduction to the sources used for the *Digest* in the so-called *Index Florentinus* and *C. Deo auctore* 4).⁵ It is, however, possible to glean a certain amount from the thousand-odd excerpts that make up the *Hippiatrica*, not only about the character of the source-treatises, but also about their literary context, and their relation to one another. Defining these relationships sheds some light not only on the initial selection of sources for the compilation, but also on the reasons for the inclusion or omission of excerpts in subsequent recensions of the text.

In the following chapters, we shall try to sketch portraits of the seven authors based upon the excerpts of each treatise that may be retrieved from the various recensions of the *Hippiatrica*. Since the authors do not name themselves in their texts (apart from Apsyrtus and occasionally Pelagonius, as the sender's name is conventionally part of the greeting of a letter), we must rely upon the lemmata attached to the excerpts. In the M recension, the attributions of the excerpts are not in doubt. Lemmata are almost uniformly present; where they are not, the succession of authors in a consistent order aids in the identification of the fragments. The reliability of the lemmata in M is corroborated by the Latin text of Pelagonius, the Syriac translation of Anatolius, and the chapters on horses and cows in the *Geoponica*, the Latin translation of Apsyrtus in the *Mulomedicina Chironis*, the Arabic translation of Theomnestus, and to a lesser extent the medieval Latin and Italian translations of Hierocles.⁶ Comparison with these independently transmitted

⁵ The 'Index' is entitled 'Εξ ὅσων ἀρχαίων καὶ τῶν ὑπ' αὐτῶν γενομένων βιβλίων σύγκειται τὸ παρὸν τῶν digeston ἥτοι πανδέκτου τοῦ εὐσεβεστάτου βασιλέως Ἰουστινιανοῦ σύνταγμα. *Digest*, ed. Mommsen, p. lii.

⁶ Translations of technical material are difficult: the fact that so many were made shows that these texts were considered worth taking trouble over. It is worth enumerating the various translations that are such a striking feature of the transmission of the Greek hippiatric texts. Translation features even in what one might call the prehistory of the *Hippiatrica*, with the series of translations of Mago of Carthage; the one made (supposedly from Phoenician to Greek rather

sources—as far as possible, given the state of their texts, most of which stand in need of first or new editions—confirms that the text of the excerpts seems, in M, to be presented without editorial modification, so that the idiosyncrasies of each author's writing have been preserved.⁷ The characters of the sources will become more clear, and my conclusions, which are of necessity provisional, will no doubt need to be revised when satisfactory editions of the Arabic texts of Anatolius and Theomnestus, the Latin version of Hierocles, the *Mulomedicina Chironis*, the Greek *Geoponica*, and the M recension itself, become available. (Hopefully, one will not have to wait too long.) One could, in theory, on the basis of M, assemble what is left of the contents of each author's treatise in a 'palingenesia';⁸ indeed, excerpts from Hierocles were reconstituted, Osiris-like, in the medieval period, and excerpts attributed to Hippocrates were gathered in this way from Grynæus' edition by van der Linden.⁹ But our intention here is simply to devote some attention to each author as an individual.

At the same time, considered together, the sources of the *Hippiatrica* give us insight into the functioning of a written scientific tradition in which authors appropriate, discard, or build upon the work of their predecessors, and cite their colleagues critically or with approval. Such citations provide useful evidence: they are, in the first place, an indication of the relative chronology of the principal authors, as well as of the otherwise unknown sources whom they name. Citations are also evidence of the esteem in which an author was held by later writers, and, similarly, of the influence exerted by each author's work.¹⁰ Certain authors also indulge in the literary convention of

than from the earlier Latin version) by Cassius Dionysius of Utica was used by our authors. A translation of Apsyrtus into Latin was made by the time the *Mulomedicina Chironis* was compiled (4th c.?): it was also used by Vegetius in the late 4th or early 5th. Apsyrtus was re-translated by Pelagonius in the 4th c. into elegant Latin with the influence of Columella's style. Pelagonius in turn, along with his quotations of Apsyrtus, was translated into Greek in Late Antiquity, before the compilation of the *Hippiatrica*. A learned translation was made of Theomnestos into Arabic by the late 9th c., when it was used by Ibn Akhī Ḥizām. In the 13th c. a learned, *ad verbum* translation of Hierocles into Latin was made by Bartholomew of Messina; from it was made a 'popular' version in Sicilian dialect. An Italian translation was made from RV before the 15th c., the date of the illustrated manuscripts in which it survives.

⁷ Cf. Björck, 'Zum CHG', 15–18.

⁸ The term is derived from the alchemical procedure of regenerating plants or animals from their ashes or fragments; see C. F. Hommel, *Palingenesia librorum iuris veterum* (Leipzig, 1767). Hommel, p. vii, compares Tribonian and his team of excerptors to Medea, citing Ovid's description (*Tristia* 3.9) of the dismemberment of Apsyrtus: 'atque ita divellit divulsaque membra per agros | dissipat in multis inveniendis locis'.

⁹ J. A. van der Linden, *Magni Hippocratis Coi Opera omnia graece et latine* (Leyden, 1665), vol. II, pp. 875–96, repr. by P. A. Valentini, *Ἱπποκράτους ἱππιατρικά* (Rome, 1814); cf. Oder, 'De hippiatricorum codice Cantabrigiensis', 59 n. 3.

¹⁰ See the discussion of citations in Roman legal writers by A. M. Honoré, *Gaius* (Oxford, 1962).

name-dropping to signal their awareness of, and to connect their work with, the 'classics' of their genre. More numerous than quotations by name, and equally revealing, are the unacknowledged borrowings. These are not plagiarism: the rules of *κλοπή* applied in antiquity to literature were never extended to technical treatises, whose contents were considered fair game for reuse.¹¹ The sources of the *Hippiatrica* furnish us with several case-studies of different types of appropriation and reuse of scientific material. In addition to their relationships on the scientific level, there is what one might call a literary interaction between authors, which includes instances of stylistic metaphrasis and mimesis of form.¹² The extent to which various treatises echo or overlap with one another allows us to identify relationships between pairs and groups of authors and to trace the development of a cross-section of the veterinary tradition before the texts were codified.

In the M recension, the complete series of seven authors is represented for cough, conditions of the eyes, digestive ailments, and wounds;¹³ but opinions of four or more authors are present for thirty subjects—a striking number of parallels. A certain amount of common subject matter is to be expected: each treatise would presumably have covered frequently occurring ailments. And it is not unusual that different authors should recommend the same remedies. But the high incidence of word-for-word correspondences between the texts betrays the very close relation of their authors. Certain relationships are simple: for example, Hierocles presents the opinions of Apsyrtus and other authorities, scrupulously giving them credit in a manner reminiscent of legal literature, and reworking their texts only superficially. He is a compiler; a practitioner, on the other hand, may adapt received material for his own purposes and in accordance with his own experience. Thus we find Apsyrtus selectively borrowing remedies from Eumelus, criticizing them, applying them in a different context or adding ingredients. Theomnestus, similarly, uses material from Apsyrtus but presents it in his own distinctive style. Other relationships are more complicated, involving several authors and several possible paths of transmission. Pelagonius uses Apsyrtus, who cites Eumelus, yet there seems also to be a more direct connection between Pelagonius and Eumelus through their use of a common source.

Worthy of note is the use, by the hippiatric authors, of veterinary material from the lost agricultural compilations of Cassius Dionysius and Diophanes,

¹¹ On the conventions of literary borrowing, see E. Stemplinger, *Das Plagiat in der griechischen Literatur* (Leipzig and Berlin, 1912).

¹² On such interactions, A. Reiff, *Interpretatio, imitatio, aemulatio: Begriff und Vorstellung literarischer Abhängigkeit bei den Römern*, diss. (Cologne, 1959).

¹³ CHG II, preface p. xix and p. 358.

or other representatives of the family of texts said to be derived from that of Mago of Carthage. This family includes Varro, Columella, and Anatolius, who all name Diophanes or Cassius Dionysius as sources. The sections on selecting, breeding, and caring for livestock in these texts are very similar: all three compilers seem to have incorporated the same source-material into their work with little alteration. Apsyrtus quotes Mago by name. Pelagonius borrows extensively from both Apsyrtus and Columella; while Pelagonius, Eumelus, and Columella contain parallels that may be explained by their use of a common source belonging to the agricultural tradition. Hierocles and Theomnestus both use Apsyrtus, and Theomnestus cites an author named Cassius who may be the same as Cassius Dionysius. Hippocrates shows affinities with passages in the other sources derived from the agricultural writers. We shall consider these relationships in greater detail in our discussions of the individual authors.

It thus appears that nearly all of the authors whose texts make up the *Hippitrica* share a certain amount of common source-material.¹⁴ Each author, though, treats this material in a different way, so that, collected together, they echo and contrast with one another like variations on a musical theme. This 'family resemblance' of the source-texts makes them well suited to the form of the encyclopaedia. As we examine each of the principal sources of the *Hippitrica*, we shall pay close attention to these resemblances: since the texts are not independent of one another, their relationships must be taken into account in any analysis of an individual author's content or style.

¹⁴ A parallel is provided by the family of works on military science: on the concept of *retractatio*, and use of the same source-material by armchair tacticians as well as by professional soldiers, see A. Dain, *Histoire du texte d'Élien le tacticien des origines à la fin du moyen âge* (Paris, 1946), 26 ff.

Anatolius

ANATOLIUS OF BERYTUS was a compiler; the text that goes under his name is drawn from diverse sources, most of which were compilations as well.¹ Broader in scope than the other sources of the *Hippiatrica*, Anatolius' text was a sort of farmer's almanac containing information on many different aspects of agriculture and rural life, including the care, breeding, and medical treatment of animals. The precise date of the text is unknown: a *terminus post quem* is provided by Anatolius' use of the *Kestoi* of Julius Africanus (first half of the third century AD); a *terminus ante quem* by the use of Anatolius in Palladius' agricultural manual (probably around the middle of the fifth century AD). Although Anatolius was not an uncommon name, our author has been tentatively identified with the jurist Anatolius of Berytus, who held various high offices in the mid-fourth century, and is mentioned in Eunapius' *Lives of the Philosophers*, in the letters of Libanius, and in a number of decrees in the Theodosian Code.²

It is unlikely that Anatolius is the earliest author in the canon of the *Hippiatrica*; nevertheless, we shall consider his work first, since its contents derive from earlier periods. Anatolius' text is related, via the lost Hellenistic compilations of Diophanes and Cassius Dionysius, to the manuals of Varro and Columella, and belongs with them to a tradition of agricultural literature derived ultimately from Mago of Carthage. His other sources, collections of

¹ On Anatolius, see Oder, 'Beiträge zur Geschichte der Landwirtschaft bei den Griechen, I', 66 ff.; M. Wellmann, 'Anatolius (14)', *RE I* (Stuttgart, 1891), col. 2073; J. Teall, 'The Byzantine Agricultural Tradition', *DOP* 25 (1971), 39 ff.

² The identification mentioned in *PLRE I*, 'Anatolius 3' (= 'Azutrio'), accepted by R. H. Rodgers, 'Κηποποιία: Garden Making and Garden Culture in the *Geoponika*', in A. Littlewood, H. Maguire, and J. Wolschke-Bulmahn (eds.), *Byzantine Garden Culture* (Washington, D. C., 2002), 161; idem, 'Hail, Frost, and Pests in the Vineyard: Anatolius of Berytus as a Source for the Nabataean Agriculture', *Journal of the American Oriental Society*, 100 (1980), 1; cf. Wellmann, 'Anatolius (14)'; rejected by Oder, 'Beiträge I', 95–9. On sources for Anatolius, and the question of whether there were two Prefects of Illyricum called Anatolius of Berytus, see S. Bradbury, 'A Sophistic Prefect: Anatolius of Berytus in the *Letters of Libanius*', *Classical Philology*, 95 (2000), 172–86. Libanius' correspondent was a pagan with literary interests who possessed villas 'as large as towns', which may make him a likely candidate for compiler of a text on agriculture and country life derived from antique sources.

information on natural history, on magical sympathy and antipathy, have equally deep roots in the scientific and pseudo-scientific literature of antiquity. It is interesting that the compiler of the *Hippiatrica* considered it worthwhile to extract the relatively small amount of material on horse care present in Anatolius' compilation for inclusion in the veterinary canon. Despite their origins in works of a more general nature, the excerpts from Anatolius in the *Hippiatrica* are related in character and content to the specialized veterinary treatises of the other authors. This resemblance illustrates the close links of the veterinary manuals with agricultural literature.

ANATOLIUS' TEXT

Anatolius is the only source of the *Hippiatrica* whose text is known from a papyrus: the upper script, datable to the late sixth or early seventh century, of the palimpsest P. Vindobonensis G 40302, has recently been identified as a fragment of the section on cattle, copied separately for practical reference.³ A passage on hail is preserved in Parisinus gr. 2313;⁴ apart from these two instances, Anatolius' text does not survive in Greek in its original form. But the compilation appears to have enjoyed a wide diffusion. The text was used by Cassianus Bassus the *scholastikos* as a source for his *Περὶ γεωργίας ἐκλογαί*, conventionally attributed to the sixth century. Cassianus' work was re-edited in the tenth century, with the addition of a dedication to Constantine VII.⁵ Among the fifty-odd manuscripts of the so-called *Geoponica* are representatives both of the tenth-century edition and of an earlier phase which may be closer to Cassianus' work; the modern edition of the text does not distinguish adequately between them.⁶

³ A. Papathomas, 'Das erste antike Zeugnis für die veterinärmedizinische Exzerptensammlung des Anatolios von Berytos', *Wiener Studien*, 113 (2000), 135–51. No name is attached to the fragment; that it is from Anatolius and not Cassianus is inferred by the editor from the date of the papyrus.

⁴ Parisinus gr. 2313 (14th c.), fo. 49^v, ed. H. Beckh, *De Geoponicorum codicibus manuscriptis*, diss. (Erlangen, 1886), 268–70; cf. Rodgers, 'Hail, Frost, and Pests'.

⁵ Oder, 'Beiträge III', 23–36; W. Gemoll, 'Untersuchungen über die Quellen, der Verfasser, und die Abfassungszeit der *Geoponica*', *Berliner Studien für classische Philologie und Archäologie*, 1 (1882), 1–280; Lemerle, *Le premier humanisme byzantin*, 291, based on the evidence in A. Claus, *ὁ σχολαστικός*, diss. (Cologne, 1965); Teall, 'The Byzantine Agricultural Tradition', 40.

⁶ Ed. H. Beckh (Leipzig, 1890). Beckh considered the three principal manuscripts upon which his edition is based to be derived from the same archetype; this hypothesis was disproved by G. Pasquali, who demonstrated that one of the three, Venice, Marc. gr. 524 (13th c., Beckh's M) contains a version of the text earlier than the 10th-c. recension represented in Florence, Laur. Plut. 59.32 (F), 'Doxographica aus Basiliusscholien', *Nachrichten von der k. Gesellschaft der*

Fifteen excerpts are attributed to Anatolius in the M recension of the *Hippiatrica*; of these, twelve also figure in *Geoponica* XVI, the chapter of the agricultural compilation devoted to horses, donkeys, mules, and camels. This chapter, in the Teubner edition of the *Geoponica*, bears misleading attributions to Apsyrtus, Hierocles, Theomnestus, Pelagonius, and Hippocrates; these appear only in the family of *Geoponica* manuscripts representing the tenth-century re-edition of the text.⁷ (*Geop.* XVI seems to have figured in a manuscript which perished in the fire at the Escorial Library.)⁸ Eleven of the excerpts in M are repeated in the B recension of the *Hippiatrica*; C contains another excerpt absent from M and B but present in *Geoponica* XVI.⁹ The series of anonymous excerpts on the points of the horse and on breeding at the beginning of the C recension have also been attributed to Anatolius by Oder.¹⁰ Since attributions in the M recension of the *Hippiatrica* are trustworthy, we may assume that the excerpts attributed to Anatolius in that compilation were made directly from Anatolius' manual rather than via Cassianus Bassus (who is in any case not mentioned in M). Thus although the excerpts from Anatolius in the *Hippiatrica* are not numerous, they provide independent evidence for a text that has undergone much reworking; this evidence has so far been neglected.¹¹

That the excerpts attributed to Anatolius in M all come from one work, and that this work was a more general manual of agriculture, is confirmed by the evidence of a Syriac translation of the compilation, known from a manuscript

Wissenschaft zu Göttingen (1910), 212–15; cf. E. Fehrlé, 'Richtlinien zur Textgestaltung der griechischen Geoponica', *Sitzungsb. der Heidelberger Akad. der Wiss., Phil.-hist. Kl.* 11 (1920), 3–15; idem, 'Studien zu dem Griechischen Geponikern', *Στοιχεῖα*, III (Berlin, 1920). Only the 10th-c. F and its apographs transmit the prooimion dedicating the compilation to the *τερπνὸν τῆς πορφύρας ἀπάνθισμα*, Constantine VII: *Geop.*, p. 1, apparatus. (On F, see Weitzmann, 'The Character and Intellectual Origins of the Macedonian Renaissance', 192–4.) Bassus' dedicatory prefaces are preserved in Marc. gr. 524 at the beginnings of books VII, VIII, and IX: e.g. *τάδε ἔνεστιν ἐν τῇδε τῇ βίβλῳ, ᾧ φίλτατε παῖ Βάσσε, ἐβδόμη μὲν οὔση τῶν περὶ γεωργίας ἐκλογῶν τοῦ σοῦ πατρὸς*, *Geop.*, p. 186. One looks forward to the appearance of the new edition of the *Geoponica* being prepared by Prof. R. H. Rodgers.

⁷ See the apparatus to *Geop.* XVI. Beckh's view that they were present in the archetype of Marc. gr. 524 (*De Geoponicorum codicibus manuscriptis*, p. 85), is incorrect.

⁸ Δ.IV.22, fos. 111–17, described as containing material on horses ascribed to Apsyrtus, Hierocles, Pelagonius, Hippocrates; and on camels from Didymus and Florentinus; G. de Andrés, *Catálogo de los códices griegos desaparecidos de la real biblioteca de el Escorial* (El Escorial, 1968), 117.

⁹ C56.8, *CHG* II p. 187.

¹⁰ 'Excerpta Anatoliana', *CHG* II pp. 115–21, see also *Anecdota Cantabrigiensia*. Anatolius may also have been a source for (or may have shared a source with) the veterinary manual of Tiberius, *CHG* II p. xi; the same goes for the so-called *Nabataean Agriculture*; cf. Rodgers, 'Hail, Frost, and Pests', 6–7.

¹¹ Beckh's edition of the *Geoponica* and the edition of the Syriac version of Anatolius by de Lagarde refer to the 1537 edition of the *Hippiatrica*, i.e. the B recension.

of the eighth or ninth century in the British Library, Additional 14662.¹² The manuscript is mutilated at the beginning and end, and lacks any reference to an author or translator;¹³ however, comparison of the passages on horses reveals a near-exact correspondence both with the Anatolius excerpts in the *Hippiatrica* and those that are only preserved in *Geoponica* XVI. The translation, as Dr Sebastian Brock kindly informs me, could belong to the fifth or

¹² F. Madden, *Catalogue of Additions to the Manuscripts in the British Museum in the years 1841–1845* (London, 1850), p. 86; acquired from the monastery of Deir al-Surian at Sketis in Egypt, *ibid.*, p. 68. Ed. P. de Lagarde, *Geoponicon in sermonem syriacum versorum quae supersunt* (Leipzig 1860), and 'De geoponicon versione syriaca', in his *Gesammelte Abhandlungen* (Leipzig, 1866), 120–46. See also G. Sprenger, *Darlegung der Grundsätze nach denen die syrische Übertragung der griechischen Geoponika gearbeitet worden ist* (Leipzig, 1889). Two modern manuscripts containing the text are copies made from the printed edition: S. Brock, 'A Note on the Manuscripts of the Syriac Geoponicon', *Oriens Christianus*, 50 (1967), 186–7. The Syriac was used to a certain extent by Bechke in the Teubner edition of the *Geoponica*. I am grateful to Dr Brock for comparing the Syriac and Greek texts.

¹³ The 13th-c. history of medicine by Ibn abī Ṣayyibī'a ('*Uyūn al-anbā' fi ṭabaqāt al-atibbā'*, ed. A. Müller (Cairo and Königsberg, 1882–4), p. 200) and the 17th-c. bibliographic encyclopaedia of Ḥajjī Khalifa (*Kashf al-Zunūn 'an al-Asāmi wa-al-Funūn/Lexicon bibliographicum et encyclopaedicum a Mustafā ben Abdallah Katib Jelebi dicto et nomine Hajū Khalifa celebrato compositum*, ed. and tr. G. Flügel, vol. V (London, 1850), p. 132) list four translations into Arabic of a *Kitāb al-filāḥa ar-Rūmiyya* or 'Book on Greek agriculture', namely those of Sergius son of Elias, Qusṭā ibn Lūqā of Baalbek, Eustathius, and Abu Zakariyya ibn Yaḥyā ibn 'Adī. These references led Baumstark to conclude that Anatolius' work had been translated into Syriac by Sergius of Resaina and from Syriac into Arabic by Qusṭā ibn Lūqā: A. Baumstark, 'Lucubrationes syro-graecae', *Jahrbücher für classische Philologie*, Supplementband 21.2. (Leipzig, 1894), 353–405 and 491–503. Baumstark's conclusions are rejected by J. Ruska, who points out that the text in some MSS is ascribed to Cassianus Bassus the *scholastikos* and therefore is not a translation of Anatolius: 'Cassianus Bassus und die arabischen Versionen der Griechischen Landwirtschaft', *Der Islam*, 5 (1914), 174–9. One version has been published (I have not seen it): *Kitāb al-filāḥa ar-Rūmiyya* (Cairo, 1876). According to C. A. Nallino, 'Tracce di opere greche giunte agli arabi per trafila pehlevica', in '*Aḡab-nāma: A Volume of Oriental Studies presented to Edward G. Browne* (Cambridge, 1922), 346–63, the manner in which Greek names are deformed in the Arabic text suggests that the translation of Cassianus into Arabic was probably made from the Pehlevi version mentioned by medieval bibliographers. Ruska and Nallino do not mention the Meshed or Teheran manuscripts which concern us here. B. Attié Attié argues that the name 'Qustus' is a falsified addition to a treatise which contains references to plants introduced to the Mediterranean only in the medieval period, and therefore must represent the work of a medieval Arab author: 'L'origine d'al-falaha ar-rumiya et du pseudo-Qustus', *Hespéris Tamuda*, 13 (1972), 139–81. The manuscript (location unknown) identified by P. Spath as a copy of the translation of Eustathius ('L'ouvrage géoponique d'Anatolius de Bérytos (IVe siècle), manuscrit arabe découvert par le R. P. Paul Spath', *Bulletin de l'Institut d'Égypte*, 13 (1930–1), 47–54) is considered by F. Sezgin to represent the agricultural compilation falsely ascribed to Apollonius of Tyana; *GAS* 4 (Leiden, 1971) 315–17. J. Habbī's attempt to synthesize these theories about the relation of the oriental versions also omits the Meshed and Teheran MSS, 'Testi geoponici classici in siriano e in arabo', in G. Fiaccadori (ed.), *Autori Classici in Lingue del Vicino e Medio Oriente* (Rome, 1990), 77–92. None of the theories are based on comparison of the Greek and Arabic texts. One of the Arabic versions appears to have served as the basis for a translation into Armenian, to be dated after the 11th c., according to C. Brockelmann, 'Die armenische Übersetzung der *Geoponika*', *BZ* 5 (1896), 385–409. See also Sezgin, *GAS* 5, p. 427, and the stemma in Rodgers, '*Κηποποιία*', 163.

sixth century, since it does not have any of the tell-tale features that characterize translations into Syriac from the late sixth century on.

Anatolius was a source for the veterinary appendix to the Latin agricultural compilation of Palladius in the fifth century.¹⁴ The evidence of these various translations has not been fully synthesized; where comparisons have been made, it is worthy of note that the text of Anatolius in M is closer, in many instances, to the Syriac and to the Latin version in Palladius than to the text in the *Geoponica*.¹⁵ (The Latin translation of *Geoponica* VIII–XV made by Burgundio of Pisa does not include the chapters on livestock which concern us here.)

An Arabic translation of Anatolius is preserved in two manuscripts in Iran: Meshed, Riḍa 5762, dated AH 732 (AD 1330/31), and a modern copy of the former, Teheran, Milli 796.¹⁶ The relation of this version to the Syriac text published by de Lagarde has not yet been determined. The Arabic text is not damaged at the beginning, and the incipit gives a certain amount of information about Anatolius and his sources:

Kitāb Yūniyūs b. Ānātuyūliyūs alladhī kāna min madīnat Bairūt fī l-filāḥa abwāban jama'ahā min Filūrīntīnūs, Danūfīntūs wa-Lāwāntīnūs, Ṭarāntīnūs wa-Afrīqānus alladhī dhakara fihī ašyā' 'ajība wa-min Nīqāwūs al-mukhtaṣar wa-min al kutub allatī tusammā Qantarliya wa-qassama Yūniyūs kitābahū 'alā arba' 'ašara maqāla.¹⁷

The book of Yuniyus son of Anatolius, who was from the city of Beirut, on agriculture: chapters gathered from Filurintinus, Danufintus and Lawantinus, Tarantinus and Africanus in which are related strange things, and from the synopsis of Niqawus and the books which are named Qantarliya. Yuniyus divided his book into fourteen parts.

This passage has an echo in the ninth-century review of Anatolius' work by Photius (*Bibliotheca* cod. 163); both passages may well be based upon Anatolius' own preface. It worth quoting Photius' review in full, since it gives an idea of the sources and character of the compilation:

Ἀνεγνώθη Οὐνδανίου Ἀνατολίου Βηρύτου [sic] συναγωγὴ γεωργικῶν ἐπιτηδευμάτων. συνήθροισται δὲ αὐτῷ τὸ βιβλίον ἔκ τε τῶν Δημοκρίτου, Ἀφρικανοῦ τε καὶ Ταραντίνου καὶ Ἀπουλήτου καὶ Φλωρεντίου καὶ Οὐάλεντος καὶ Λέοντος καὶ Παμφίλου, καὶ δὴ καὶ ἔκ τῶν Διοφάνους παραδόξων· τόμοι δὲ εἰσι τῷ βιβλίῳ ἑβ'.

χρήσιμον δὲ τὸ βιβλίον, ὥς καὶ διὰ πείρας αὐτῆς ἐπὶ πολλῶν εἶδομεν, πρὸς τὰς κατὰ γῆν ἐργασίας καὶ τοὺς γεωργικοὺς πόρους, καὶ σχεδόν τι χρησιμώτερον τῶν ἄλλων ὅσοι

¹⁴ J. Svennung, 'De auctoribus Palladii II: De auctoribus libri XIV', *Eranos*, 25 (1927), 230–48.

¹⁵ Svennung, *ibid.* 242 ff.

¹⁶ Sezgin, *GAS* 4, pp. 314–15 and 5, pp. 427–8.

¹⁷ Sezgin, *GAS* 5, p. 427, transcribed from Teheran, Milli 796.

τῆς αὐτῆς αὐτῷ πραγματείας ἦψαντο. ἔχει δ' ὅμως ἓν καὶ τοῦτο τὸ βιβλίον τερατώδη καὶ ἄπιστα καὶ τῆς ἑλληνικῆς πλάνης ὑπόπλεα, ἃ δεῖ τὸν εὐσεβῆ γηπόνον ἐκτρεπόμενον τῶν λοιπῶν συλλέγειν τὰ χρήσιμα.¹⁸

Read, the compilation of agricultural practices by Vindanius Anatolius of Berytus. The book was compiled by him from the works of Democritus, Africanus, Tarantinus, Apuleius, Florentius, Valens, Leo, and Pamphilus, and also from the *Paradoxa* of Diophanes. There are twelve volumes in the book.

The book is useful, as we learned many times from actual experience, in the tilling of the soil and the labours of farming, and is, I dare say, more useful than any of the others which treat the same subject. This book, however, contains certain things which are monstrous and impious, and full of pagan error, which the pious husbandman ought to avoid, while selecting the useful items from the rest.

Photius gives the name of the compiler as Vindanius Anatolius; Oder has suggested, on the basis of epigraphic evidence, that Vindonius was more likely.¹⁹

Comparison of the sources named in the Arabic version and by Photius with those listed in the preface of Cassianus Bassus, preserved in the *Geoponica*, confirms that Anatolius was a primary source for the compilation of Bassus:²⁰

συνείλεται δὲ ἐκ τῶν Φλωρεντίνου καὶ Οὐνδανωνίου [καὶ] Ανατολίου [καὶ] Βηρυτίου καὶ Διοφάνους καὶ Λεοντίου καὶ Ταραντίνου καὶ Δημοκρίτου καὶ Ἀφρικανοῦ παραδόξων καὶ Παμφίλου καὶ Ἀπουληίου καὶ Βάρωνος καὶ Ζωροάστρου καὶ Φρόντωνος καὶ Παξάμου καὶ Δαμηγέροντος καὶ Διδύμου καὶ Σωτίωνος καὶ τῶν Κυντιλίων.²¹

It is collected from the words of Florentinus and Vindanonius and Anatolius and Berytius and Diophanes and Leontius and Tarantinus and Democritus and the *Paradoxa* of Africanus and Pamphilus and Apuleius and Varro and Zoroaster and Fronto and Paxamus and Damegeron and Didymus and Sotion and the Quintilii.

In the *Geoponica* the three components of the name given by Photius appear separately, as Vindanonius (*sic*), Anatolius, and Berytius—evidently the compiler's identity was no longer recognized.

Although Photius does not indicate that he is quoting the precise *ἐπιγραφή*, it is likely that his description of the work as a *συναγωγή γεωργικῶν ἐπιτηδευμάτων* is not very different from the title of Anatolius' book. *Συναγωγή* is a conventional term for this sort of compilation; the term was

¹⁸ Ed. Bekker, 106b–107a.

¹⁹ Oder, 'Beiträge I', 67–8 n. 1; *PLRE* I, 'Anatolius 3', cf. another form of the name in 'Vindaonius Magnus 12'.

²⁰ Oder, 'Beiträge I', 66 ff.; cf. Lemerle, *Le premier humanisme byzantin*, 288 ff.

²¹ *Geop.* I pref., ed. Beckh, p. 3.

used in the fourth century, for example by Oribasius for the title of his medical collection. The title of Cassianus Bassus' adaptation of Anatolius, preserved in the chapter headings of Marcianus gr. 524 (and in those of the tenth-century *Geoponica*), is *περὶ γεωργίας ἐκλογαί*, essentially the same.

ANATOLIUS' SOURCES

Those of Anatolius' sources that may be identified appear to have been the sort of intriguing, and for the most part lost, compilations whose popularity may be nevertheless appreciated from frequent quotations and borrowings in later texts.²² We may note that the sources do not include texts specifically on veterinary medicine. Were no manuals of horse medicine known to him? By the mid-fourth century, the veterinary treatises of Eumelus, Apsyrtus, and Theomnestus should have been available; their absence from Anatolius' list of sources may indicate that they had a limited circulation; on the other hand, Anatolius may simply have used sources of a general nature to compile a work on agriculture in general. There is no evidence that Cassianus Bassus added material from hippiatric treatises to his reworking of Anatolius. This absence was evidently considered a flaw by the tenth-century editors who added the names of the veterinary authors to the titles of excerpts in the *Geoponica*.

Diophanes

The epitome by Diophanes of Cassius Dionysius' adaptation of Mago of Carthage, was, as we have mentioned, produced in the mid-first century BC.²³ It was an important source for Varro and Columella, who both mention Diophanes in the introductions to their compilations. Varro and Columella each enumerate Greek writers who have treated agricultural matters; this list, which includes Xenophon, Aristotle, and Theophrastus, has been interpreted as a list of the sources added to Mago by Cassius Dionysius.²⁴ According to Varro,

Qui Graece scripserunt dispersim alius de alia re, sunt plus quinquaginta. Hi sunt, quos tu habere in consilio poteris, cum quid consulere voles: Hieron Siculus et Attalus

²² On the sources, see in general Oder, 'Beiträge I'.

²³ The Arabic version preserves the designation of the work as an epitome; Photius' allusion to Diophanes' work as *παράδοξα* appears to result from confusion with the work of Julius Africanus. The work is called *γεωργικά* in *Geoponica* X.29.4. Cf. Oder, 'Beiträge I', 81.

²⁴ E. Weiss, *De Columella et Varrone rerum rusticarum scriptoribus*, diss. (Breslau, 1911), 10–13.

Philometor, de philosophis Democritus physicus, Xenophon Socraticus, Aristoteles et Theophrastus peripatetici... hos nobilitate Mago Carthaginensis praeteriit, Poenica lingua quod res dispersas comprehendit libris XXIX. Quos Cassius Dionysius Uticensis vertit libris XX ac Graeca lingua Sextilio praetori misit; in quae volumina de Graecis libris eorum, quos dixi, adiecit non pauca et de Magonis dempsit instar librorum VIII. Hosce ipsos utiliter ad VI libros redegit Diophanes in Bithynia et misit Deiotaro regi. Quo brevius de ea re conor tribus libris exponere...

Those who have written various separate treatises in Greek, one on one subject, another on another, are more than fifty in number: the following are those whom you can call to your aid when you wish to consider every point: Hiero of Sicily and Attalus Philometor; of the philosophers, Democritus of the *Physika*, Xenophon the Socratic, Aristotle and Theophrastus the Peripatetics... All these are surpassed in reputation by Mago of Carthage, who gathered into twenty-eight books, written in the Punic tongue, the subjects they had dealt with separately. These Cassius Dionysius of Utica translated into Greek and published in twenty books, dedicated to the praetor Sextilius. In these volumes he added not a little from the Greek writers I have named, taking from Mago's writings an amount equivalent to eight books. Diophanes, in Bithynia, further abridged these in convenient form into six books, dedicated to king Deiotarus. I shall attempt to be even briefer and treat the subject in three books...²⁵

Columella, who repeats the same information, and the same list of Greek authors,²⁶ appears to have copied it from the lost work on agriculture by Celsus, whose name he appends to the list.²⁷

Democritus

Although a treatise on agriculture (*Περὶ γεωργίας*) is included in a list of Democritus' works,²⁸ it is likely that Anatolius' source was not the philosopher of Abdera, but a work circulating under his name.²⁹ 'Democritus' was also the pseudonym or nickname of Bolus of Mendes, who seems to have written in Alexandria in the third or second century BC;³⁰ a reference in Columella makes this clear:

²⁵ Varro I.1.8–11.

²⁶ Columella I.1.7–14.

²⁷ Weiss, *De Columella*, 14–17.

²⁸ Diogenes Laertius IX.48; where it is observed that spurious works went under his name.

²⁹ Cf. Aulus Gellius X.12.8: 'multa autem videntur ab hominibus istis male sollertibus huiusmodi commenta in Democriti nomen data...'

³⁰ On Bolus, see P. Fraser, *Ptolemaic Alexandria* (Oxford, 1972), I. 440–4, II. 636–46; M. Wellmann, 'Die Georgika des Demokritos', *Abh. der Preuss. Akad. der Wiss., Philos.-hist. Kl.* (1921), no. 4; W. Kroll, 'Bolos vs. Democritus', *Hermes*, 69 (1934), 228–32. The evidence most recently examined by J. P. Hershbell who argues that Bolus is not the author of the pseudo-Democritean works on alchemy: 'Democritus and the Beginnings of Greek Alchemy', *Ambix*, 34 (1987), 5–20.

Aegyptiae gentis auctor memorabilis Bolus Mendesius, cuius commenta, quae appellantur Graece *Χειρόκμητα*, sub nomine Democriti falso produntur...³¹

The celebrated writer of Egyptian race, Bolus of Mendes, whose commentaries, which in Greek are called *Hand-wrought products* and are published falsely under the name of Democritus...

Elsewhere Columella gives the title of Democritus' work as *Georgicon* and in Greek as *Περὶ ἀντιπαθῶν*, 'On antipathies'.³² Stephanus of Byzantium calls him *Βώλος ὁ Δημόκριτειος*, 'Bolus the Democritean', and attributes to him a quotation from Theophrastus' *Historia plantarum*, which provides a *terminus post quem* of the early third century BC.³³ Bolus' work is described in the *Souda* as

Φυσικὰ δυναμερά· ἔχει δὲ περὶ συμπαθειῶν καὶ ἀντιπαθειῶν λίθων κατὰ στοιχείου

Magical prescriptions: it contains material on sympathies and antipathies of stones in alphabetical order.³⁴

This description is corroborated by passages attributed to Democritus in Pliny, Columella, and the *Geoponica*. Among them are veterinary remedies. For example, Columella attributes to Democritus a cure for erysipelas in sheep that involves burying alive an infected animal at the threshold of the sheepfold and having the flock walk over it.³⁵ The association of male and female respectively with right and left is also attributed to Democritus in Columella and in the *Geoponica*.³⁶ But other 'Democritean' remedies for cattle in Anatolius are not magical, but call simply for squill or *amurca* (olive-lees) administered in water.³⁷ Democritus is among the Greek writers on agriculture listed by Varro and Columella, and thus appears to have been one of the sources added by Cassius Dionysius to his adaptation of Mago.³⁸ Anatolius may, therefore, have used Democritean material via Diophanes; double citations of 'Democritus and Apuleius' and 'Democritus and Africanus' suggest that these authors were intermediaries as well.³⁹

Africanus

Julius Africanus (c. AD 160–c.240), possibly a native of Roman Palestine, of Jewish descent, is best known for his *Chronographies*, which synthesized dates of events in Old Testament and Roman history, and provided the

³¹ Col. VII.5.17; cf. Pliny, NH XXIV.160.

³² Col. XI.3.2; XI.3.64.

³³ S.v. *Ἀψυνθος*.

³⁴ S.v. *Βώλος Δημόκριτος* and *Βώλος Μενδήσιος* (Adler, B 481–2).

³⁵ VII.5.17.

³⁶ VI.28; cf. VI.34.3 and *Geop.* XVII.6. See Wellmann, 'Die *Georgika*', 22.

³⁷ *Geop.* XVII.14.3–4; Col. VI.4.2–4.

³⁸ Varro, *RR* I.1.8, Col. I.1.7.

³⁹ Oder, 'Beiträge I', 80; Wellmann, 'Die *Georgika*', 17 ff.

chronological framework used by subsequent Christian historians.⁴⁰ The work used by Anatolius, however, has been deemed sufficiently different in character to have been attributed to another author by the same name:⁴¹ the compilation entitled *Κεστοί* or ‘Talismans’ attests to an encyclopaedic interest in natural history, medicine, and the sciences of agriculture and war, as well as in the occult; its literary style is influenced by the Second Sophistic.⁴² George Synkellos, who used Africanus’ *Chronographies* for his own chronicle in the early ninth century, informs us that the *Kestoi* were dedicated to the emperor Severus Alexander (r. 222–35), and briefly describes its contents:

Ἀφρικανὸς τὴν ἐννεάβιβλον τῶν Κεστῶν ἐπιγεγραμμένην πραγματείαν ἰατρικῶν καὶ φυσικῶν καὶ γεωργικῶν καὶ χυμευτικῶν περιέχουσιν δυνάμεις Ἀλεξάνδρῳ τούτῳ προσφωρεῖ.⁴³

Africanus dedicated to this Alexander his nine-volume treatise entitled *Kestoi*, which contains medical, magical, agricultural, and alchemical prescriptions.

According to Photius, the work was in fourteen books.⁴⁴ The *Souda* gives the correct figure of 24 books, and describes them as οἷον ἐκ φυσικά, ἔχοντα ἐκ λόγων τε καὶ ἐπαοιδῶν καὶ γραπτῶν τινῶν χαρακτήρων ἰάσεις τε καὶ ἀλλοίων ἐνεργειῶν ‘like spells, containing cures and diverse powers from words and incantations and certain written symbols’.⁴⁵ Psellos, in the eleventh century, was intrigued by Africanus’ agricultural, magical, and medical advice.⁴⁶ The excerpts from the *Kestoi* that may be retrieved from later compilations, both the *Hippiatrica* and the tenth-century military manuals, contain straightforward medical prescriptions as well as superstitious recommendations. Africanus names the work of the Quintilii as a source;⁴⁷ according to Vieillefond, Democritus-Bolus was, without doubt, another.⁴⁸

⁴⁰ H. Gelzer, *Sextus Julius Africanus und die byzantinische Chronographie* (Leipzig, 1880–98).

⁴¹ Björck considered the *Kestoi* different enough in character from the *Chronographies* to be a forgery or pastiche, ‘Apsyrtus, Julius Africanus’, 18–25: ‘à moins qu’Africanus ne fût atteint de démence sénile’ (p. 23).

⁴² See Vieillefond, *Les ‘Cestes’ de Julius Africanus*, 13–70.

⁴³ AM 5715 = AD 215, ed. Mosshammer, p. 439.

⁴⁴ *Bibliotheca*, cod. 34.

⁴⁵ S.v. Ἀφρικανός (Adler, A 4647). Although it is likely that elements of the *Kestoi* from Anatolius are preserved in the *Geoponica*, the presence of false attributions in that compilation leads Vieillefond to reject the text as a source: *Les ‘Cestes’*, 69–70. Γεωργίας παράδοξα from the *Tactica*, *ibid.* I.19: μακάριον μὲν γῆν ἀμφορον ἐπ’ εἰρήνης γεωργεῖν ‘it is a blessed thing to till the fertile earth in peace’.

⁴⁶ Περὶ παραδόξων ἀναγνωσμάτων, *Paradoxographi*, ed. A. Westermann (London, 1839) 143–6, repr. in Vieillefond, *Les ‘Cestes’*, 317–21.

⁴⁷ Ed. Vieillefond, II.3.5.

⁴⁸ *Les ‘Cestes’*, 58.

Pamphilus

Pamphilus' work is called *Περὶ φυσικῶν* in the *Geoponica*: the title may be translated 'On natural phenomena', but has, as we have seen, overtones of magic as well.⁴⁹ A Pamphilus is credited in the *Souda* with a work on agriculture in three books (*γεωργικὰ βιβλία γ'*).⁵⁰ The Alexandrian lexicographer (c. AD 50) of the same name is criticized by Galen for compiling a *Περὶ βοτανῶν* from other written sources without first-hand knowledge of plants.⁵¹

οὕτω δὲ [i.e. κατὰ στοιχείον] καὶ Πάμφιλος ἐποίησατο τὴν περὶ τῶν βοτανῶν πραγματείαν. ἀλλ' ἐκείνος μὲν εἷς τε μύθους γραῶν τινὰς ἐξετράπετο καὶ τινὰς γοητείας Αἰγυπτίας ληρώδεις ἅμα τισὶν ἐπωδαῖς, ὥς ἀναιρούμενοι τὰς βοτάνας ἐπιλέγουσι. καὶ δὲ κέχρηται πρὸς περίαπτα καὶ ἄλλας μαγανείας...

In this manner too [i.e. in alphabetical order] Pamphilus composed his work on plants. But he not only is diverted by old wives' tales and certain silly Egyptian charms together with certain incantations, which they recite while collecting plants, but also uses amulets and other magical practices...

All these references may allude to a larger compilation on natural history which has been reconstructed by Wellmann as 'ein Thesaurus der älteren mythologischen, naturwissenschaftlichen und geschichtlich-anekdotenhaften Literatur der Griechen'.⁵²

The Quintilii

The brothers Sextus Quintilius Condianus and Sextus Quintilius Valerius Maximus, natives of Alexandria Troas, shared the consulship in AD 151; Philostratus says that they were acquainted with Aelius Aristides and Marcus Aurelius, and that they quarrelled with Herod Atticus while they were governors of Achaia.⁵³ Athenaeus quotes them on the subject of the pistachio, calling them οἱ τὰ *Γεωργικὰ συγγράψαντες ἀδελφοί*.⁵⁴ Their work on agriculture was used, as we have mentioned, by Julius Africanus, and also by the lawyer Hierocles for his veterinary treatise; he too calls their work

⁴⁹ *Geop.* XV.1.6. The term is used in this sense in Alexander of Tralles I. 15 and the *Geoponica* II.18.8 and II.42.3.

⁵⁰ S.v. Πάμφιλος (Adler, *Π* 141); see Oder, 'Beiträge I', 78 ff.

⁵¹ *De simplicium medicamentorum temperamentis ac facultatibus*, ed. Kühn, vol. XI (Leipzig, 1826), p. 792.

⁵² Wellmann, 'Pamphilos', *Hermes*, 51 (1916), 57. Ibid., the opinion that Galen's criticism is directed at another Pamphilus.

⁵³ Philostratus, *Vitae sophistarum*, ed. Kayser, vol. II, 559, 582.

⁵⁴ Athenaeus ed. G. Kaibel (Leipzig, 1887–90), 14.649d; see *RE* 24 (Stuttgart, 1963), cols. 984–5 and 986–7.

Γεωργικά.⁵⁵ Though named in the Arabic version and by Cassianus Bassus, the Quintilii are omitted from Photius' list of Anatolius' sources; however, it is tempting to see in the name 'Valens' a misreading of ΟΥΑΛΕΝΤΟC for ΚΟΥΙΝΤΙΑΙΩΝ.⁵⁶

Tarantinus, Florentinus, Apuleius

Tarantinus is quoted by Hierocles as the source for a superstitious remedy for shrew-mouse bites, and also for the famous anecdote of the mule of the Parthenon (to which we shall return).⁵⁷ Florentinus' work is referred to in the *Geoponica* as Γεωργικά; his allusions to a certain Marius Maximus and to a giraffe seen at Rome lead Oder to assign him a date in the first half of the third century.⁵⁸ The Apuleius in Photius' list may be related to the work on astrology and prophecy known to John Lydus, or to the pseudo-Apuleian herbal.⁵⁹ Leo, Leontius or Leontinus is elusive.⁶⁰

Oder's study of Anatolius' sources makes it clear that their transmissions are intricately entwined not only with one another but with literature on natural history and agriculture ranging from Pliny and Columella to the obscure Neptunianus. The parallel passages assembled by Wellmann in his attempts to reconstruct the compilations of Democritus and Pamphilus show that elements of the same traditional lore, remedies based on sympathy and antipathy, anecdotes about animals, etc. appear in Aelian, Athenaeus, Plutarch, Pliny, Clement of Alexandria, Timothy of Gaza, in lexicæ and in scholia on various classical texts as well.⁶¹ The direct source from which any author acquired this material—whether from reference-books or via long chains of borrowing—is obviously difficult to determine. These sources are not purely technical manuals: many of them seem to have had a literary flavour and an antiquarian character. The Quintilii and Africanus were men of high standing; Anatolius, too, was evidently well-educated with an interest in farming, and no aversion to the irrational.

⁵⁵ Hierocles B1.13, *CHG* I p. 5.

⁵⁶ ΑΕΝΤΟ C is suggested by Oder, 'Beiträge I', 87.

⁵⁷ B1.13, *CHG* I p. 5; M705 = B87.2, *CHG* I p. 314.

⁵⁸ *Geop.* IX.14, XVI.22; Oder, 'Beiträge I', 83 ff.

⁵⁹ Oder, 'Beiträge I', 80; Rodgers, 'The Apuleius of the *Geoponica*', *California Studies in Classical Antiquity*, 11 (1978), 197–207; Lydus, *De mensibus*. IV.73, *De ostentis*. 3 and 10; E. Howald and H. E. Sigerist (eds.), *Antonii Musae de herba vettonica liber; Pseudapulei herbarius; Anonymi de taxone liber; Sexti Placiti Liber medicinae ex animalibus etc.* (Leipzig and Berlin, 1927).

⁶⁰ Oder, 'Beiträge I', 80.

⁶¹ 'Die *Georgika* des Demokritos' and 'Pamphilos', as above.

The character of Anatolius' work may be inferred from that of his sources: a combination of practical advice, observations of nature, traditional lore, medicine, and magic—not unlike the *Geoponica* or a modern farmer's almanac. Photius conveys a sense of this variegated nature in his review. The emphasis he places on the usefulness of the book (χρήσιμον... χρησιμώτερον... συλλέγειν τὰ χρήσιμα) is echoed in the wording of both prefaces of the *Geoponica*, that is assumed to be by Cassianus Bassus and the one dedicated to Constantine Porphyrogenitus.⁶² The *τερατώδη καὶ ἄπιστα*, 'monstrous and impious things', criticized by Photius may have come from Democritus, Pamphilus, or Julius Africanus. Irrational practices are certainly in evidence in the *Geoponica*; and the passage from Anatolius on averting the damages of hail, frost, and pests from vines, preserved independently in Greek, contains several recommendations of sympathetic magic.⁶³ There are also references to such practices in the excerpts from Anatolius in the *Hippiatrica*. Photius goes on to comment that the writers on agriculture say τὰ αὐτὰ περὶ τῶν αὐτῶν, 'the same things about the same things'. The only Greek agricultural manual to survive is the *Geoponica* (Cassianus Bassus); but comparison of its text with Varro and Columella leads one to concur with Photius' opinion.⁶⁴

CONTENTS AND STRUCTURE OF THE TEXT

The Syriac translation (assuming that it has not been reworked) provides evidence of the way in which the Anatolius excerpts in the *Hippiatrica* were originally organized, and of the context in which they once appeared. In the Syriac text, advice about bees, cows, horses, sheep, dogs, and domestic fowl is gathered into one book, XIII.⁶⁵ In the case of the large animals, a description of the ideal conformation of the animal is followed by advice about breeding, and then by treatments for various ills. The same arrangement (which may be

⁶² *Geop.* I pref., p. 3; *Geop.* Prooimion 7, p. 2.

⁶³ This sort of magic was permitted by *Cod. Theod.* IX.16.3: 'nullis vero criminationibus implicanda sunt ... in agrestibus locis, ne maturis vindemiis metuerentur imbres aut ruentis grandinis lapidatione quaterentur'. Middle Byzantine legislation was less tolerant: see P. Noailles and A. Dain, *Les Nouvelles de Léon VI le Sage*, Nov. 65. For archaeological evidence of the superstitious practices recommended in the *Geoponica*, see D. R. Jordan, 'On an Emendation of the Text of the *Geoponica*', *L'antiquité classique*, 52 (1983), 277–8. Francesco Barozzi ran afoul of the Inquisition in 1587 for conjuring up a hailstorm in an attempt to end a drought.

⁶⁴ See Rodgers, 'Hail, Frost, and Pests', for discussion of the relation of the so-called *Nabataean Agriculture* and the Graeco-Roman agricultural writers.

⁶⁵ De Lagarde, 'De geponicon', 134.

derived from Aristophanes of Byzantium's epitome of Aristotle's works on animals)⁶⁶ is present in Varro book II (sheep, goats, pigs, cows, horses, mules, dogs), and Columella books VI (cows, horses, donkeys, mules), VII (sheep, goats, pigs, dogs), and VIII (chickens). In the *Geoponica*, a compilation of great diversity, the books on animal husbandry, XIV (chickens), XVI (horses, mules, donkeys, camels), XVII (cows), XVIII (sheep and goats), and XIX (dogs and pigs) form a unit coherent in content and style.⁶⁷ Although, in the *Geoponica*, Anatolius' text has to some extent been combined with that of Didymus,⁶⁸ this arrangement is evidently derived from Anatolius.

The excerpts from Anatolius in the *Hippiatrica* include five long narrative passages relating to the breeding of horses and mules, and the care of the foal;⁶⁹ the ten excerpts of medical nature are short, consisting for the most part of treatments, with little or no indication of symptoms, and no discussion of aetiology or reference to medical theory. Surgery is not mentioned. This emphasis on breeding and general care, in addition to treatment of ailments and accidents, is shared by Anatolius with Varro and Columella, but not with the other treatises in the *Hippiatrica*, which focus almost entirely on medical treatment. The small number of excerpts attributed to Anatolius, and the concision of their text, is explained by the fact that the care of horses, donkeys, and mules formed only a part of a compilation that included information on many subjects. And the Anatolius excerpts in the *Hippiatrica* preserve allusions to the fact that material on horses was originally presented together with information on other animals, for example: *μη ὥσπερ ἐπὶ τῆς τῶν ἄλλων ἀνατροφῆς, ὧν τὰ γεννηθέντα ἀφαιρούμεν, οὕτως καὶ ἐπὶ τῶν ἵππων φιλοστοργότατον γὰρ τοῦτο τὸ ζῶον ἀπάντων*. 'It is not the same as in the rearing of others, whose young we take away, in the case of horses: for this animal is the most affectionate of all.'⁷⁰ (The adjective *φιλόστοργον* is applied to the horse by Aristotle, who is named as one of Cassius Dionysius' sources.⁷¹) Similar allusions are present in *Geoponica* XVI: 'use this for cattle too, and for other animals' (*τούτω δὲ χρήσῃ καὶ πρὸς βοῦς, καὶ τὰ ἄλλα ζῶα*).

⁶⁶ See Aristophanes' explanation of his principles of organization, ed. Lambros, *Excerptorum Constantini de natura animalium libri duo*, II. 1.

⁶⁷ According to Varro (II.1.11–27), the *scientia pastoralis* is comprised of *aetas*, *forma*, *seminium*, *ius in parando*, *pastio*, *fetus*, *nutricatus*, *sanitas*, and *numerus*, i.e. the age at which an animal becomes and ceases to be useful or productive, ideal conformation, breeds or varieties, law of purchase, pasturage, breeding, feeding, health, and the number suitable for a herd. With the exception of *ius*, these are the same as the subjects treated in Columella and Anatolius.

⁶⁸ Oder, 'Beiträge II', 212–22.

⁶⁹ M82 = B14.7; M83 = B14.8; M84 = B14.9; M1035 = B15.3–4; M1065, *CHG* II p. 103.

⁷⁰ M1065, *CHG* II p. 103.

⁷¹ Aristotle, *HA* VIII (IX), 611a. καὶ ὅλως γε δοκεῖ τὸ τῶν ἵππων γένος εἶναι φύσει φιλόστοργον; the phrase is repeated by Aristophanes of Byzantium, ed. Lambros, II.579.

Comparison of the excerpts attributed to Anatolius in the *Hippiatrica* with *Geoponica* XVI shows that although there is substantial correspondence, both compilations seem to contain selections or abbreviations from a text of Anatolius that was slightly more extensive. The *Hippiatrica* contains excerpts from Anatolius with no equivalent in the *Geoponica*, namely those on the age at which horses are suitable for breeding (περὶ ἡλικίας ἵππων τῶν πρὸς ὀχείας ἐπιτηδείων) and on the rearing of foals (περὶ τῆς τῶν πώλων ἀνατροφῆς).⁷² Corresponding passages are, however, present in the Syriac version as well as in Columella and Varro, so there is no reason to doubt that these formed part of Anatolius' original text.⁷³ A long passage in the *Hippiatrica* on the care of mares in foal (περὶ ἐπιμελείας τῶν κυουσῶν ἵππων), present also in the Syriac, is alluded to with a single sentence in *Geoponica* XVI.⁷⁴

Chapters in *Geoponica* XVI with no equivalent in the *Hippiatrica* are those on the points of the horse (περὶ ἵππων), on pneumonia (περὶ πνευμονίας), on dysury (περὶ δυσουρίας), on mange (περὶ ψώρας), a recipe for ointment for the joints (μάλαγμα πρὸς ἄρθρα), and on leeches (περὶ βδέλλης); these, too, are present in the Syriac.⁷⁵ The similarity of *Geoponica* XVI.8 on the stomach (περὶ κοιλίας), to *Hippiatrica* M621 on flux of the stomach (περὶ κοιλίας ῥέσεως), an excerpt attributed to Eumelus, may have contributed to the omission of the Anatolius excerpt from the M and B recensions of the *Hippiatrica*.⁷⁶ Other chapters, such as those on leeches and pneumonia, may have been omitted from the *Hippiatrica* because of similarity to the advice of other authors.⁷⁷

ANATOLIUS, VARRO, COLUMELLA, AND MAGO

That the principal ancient works on agriculture draw their information about livestock from a common source was first pointed out by Franz Bücheler, in a note on the correspondence between descriptions of the ideal conformation

⁷² M82 = B14.7, *CHG* I pp. 80–1; M1035 = B15.3–4, *CHG* I pp. 86–7; M1065, *CHG* II p. 103.

⁷³ Cf. de Lagarde, 'De geoponicon', 134–5; parallels in the apparatus to *CHG* I p. 81 and II pp. 118–19.

⁷⁴ M1035 = B15.3–4, *CHG* I pp. 86–7; *Geop.* XVI.1.6.

⁷⁵ XVI.1.1–2 and 7–17.

⁷⁶ According to Oder and Hoppe, Anatolius must have excerpted this passage from Eumelus (*CHG* II p. x). The attribution to Eumelus is not beyond doubt in M, since there is some confusion in the numbering of M621, which is preceded by an anonymous and unnumbered excerpt (ἄρτυσις οἶνου), similar to Palladius XI.14.13. This excerpt is, however, present in C with an attribution to Eumelus, C22.2, *CHG* II p. 159. The similarity may also be explained by use of the same source by both Anatolius and Eumelus.

⁷⁷ *Geop.* XVI.19 is similar to M527 = B88.4 (Apsyrtus) and M529 (Hippocrates); *Geop.* XVI.10 to M533 = B6.3 (Apsyrtus).

of horses, cows, and goats in Varro, Columella, and the *Geoponica* (i.e. Anatolius).⁷⁸ Following Bücheler's lead, Richard Heinze demonstrated that none of the three texts is recognizably the source of any of the others, and that the earliest text, that of Varro, presents in several places an abbreviated version of information in the *Geoponica*. Heinze identified the common source as the lost agricultural manual of Mago the Carthaginian, versions of which—Cassius Dionysius or Diophanes—are explicitly cited as sources by the compilers of all three texts.⁷⁹ Both Latin authors prefer to cite the illustrious Carthaginian rather than the later compilers; but Varro's references to 'Mago and Dionysius', and Columella's to 'Mago and Celsus' reveal their more immediate sources.⁸⁰ For example, Columella quotes Mago by name when discussing the *forma* or ideal physical characteristics to be kept in mind when buying cattle:

Aliae formae sunt Asiaticis, aliae Gallicis, Epiroticis aliae . . . Quae cum tam varia et diversa sint, tamen quaedam quasi communia et certa praecepta in emendis iuvenis arator sequi debet; eaque Mago Carthaginiensis ita prodidit, ut nos deinceps memorabimus.⁸¹

Those of Asia and of Gaul and of Epirus are different in form . . . Though there is so much variety and diversity, yet there are certain as it were universal and fixed principles which the farmer ought to follow in buying bullocks. Mago the Carthaginian has laid down these principles in the form which we will now relate.

Columella's description of the points of the cow is very similar to that of Anatolius in *Geoponica* XVII. The catalogues of the points of the sheep, cow, dog, and chicken in Varro, Columella, and the *Geoponica* have been compared by O. Hempel;⁸² Oder has demonstrated that the same is true in the case of descriptions of the points of the horse in Greek and Latin writers, and that in this case the description is ultimately derived—almost word-for-word—from those of Xenophon and Simon, via the compilation of Cassius Dionysius.⁸³ Oder showed that the same is true for information about breeding and the

⁷⁸ 'Coniectanea', *Rh. Mus.* 39 (1884), 291–2.

⁷⁹ 'Animadversiones in Varronis rerum rusticarum libros', *Commentationes philologiae quibus Ottoni Ribbeckio . . . congratulantur discipuli Lipsienses* (Leipzig, 1888), 431–40.

⁸⁰ It is likely that Columella used Diophanes via Celsus: Weiss, *De Columella et Varrone*, 9–17; see also O. Hempel, *De Varronis rerum rusticarum auctoribus quaestiones selectae*; P.-P., Corsetti, 'Columelle et les dents du cheval', *Centre Jean Palerne, Mémoires*, 3: *Médecins et Médecine dans l'Antiquité* 11–12.

⁸¹ Col. VI.1.2–.2, Speranza, fr. 44

⁸² *De Varronis rerum rusticarum auctoribus*, 77–82.

⁸³ *Anecdota Cantabrigiensia*, 14 ff., where descriptions by Simon, Xenophon, Varro, Columella, the *Geoponica*, Palladius, Vergil, Nemesian, and ps.-Oppian are presented in tabular form. The agreement of ancient writers on characteristics desirable in the horse was noted by Pliny: *forma equorum quales maxime legi oporteat pulcherrime quidem Vergilio vate absoluta est, sed et nos diximus . . . et fere inter omnes constare video*, NH VIII.162.

care of the foal, where Aristotelian references confirm Varro's implication that Cassius Dionysius added material from Greek authors to Mago's text.⁸⁴

Varro names 'Mago and Dionysius' as his source for the length of gestation in horses and mules:

Subicio Magonem et Dionysium scribere, mula et equa cum conceperint, duodecimo mense parere.

I add that Mago and Dionysius remark that the mule and the mare give birth in the twelfth month after conception.⁸⁵

And Columella and Anatolius give near-identical instructions for breeding cows, horses, and mules.⁸⁶ For example, Anatolius gives the same advice as Varro and Columella on how to bring up a donkey colt for the purpose of mule-breeding:⁸⁷

Anatolius in M

Φιλοκαλώτερον δέ τινες
ποιούντες ταῖς θηλείαις
ἰππάσιν ὑποβάλλουσι τοὺς
τῶν ὄνων πῶλους. εἰς γὰρ
κρεῖττονι τραφῆσονται
γάλακτι καὶ συντραφέντες
φιλοστοργότερον ἔξουσιν
πρὸς τὰς ἰππάδας ἐκ τῆς
ἀνατροφῆς, ὥστε καὶ
ἐφορμᾶν προθύμως.

Some people do it more meticulously, and put the foals of donkeys under female horses. They are better nourished on this milk, and being nourished together will from their upbringing be more affectionate toward mares, so that they approach them eagerly.

Varro

Pullum asininum a partu recentem subiciunt equae, cuius lacte ampliores fiunt, quod id lacte quam asininum ad alimonia dicunt esse melius... Hic ita educatus a trimo potest admitti; neque enim aspernatur propter consuetudinem equinam.

They put a newly-born donkey-foal under a mare, so that on her milk they make it fatter, as they claim that such milk is better for nourishment than the donkey's milk... A jack so reared may be used for breeding after three years, nor will it refuse, on account of its being accustomed to horses.

Columella

Igitur qualem descripsi asellum, cum est protinus genitus, oportet matri statim subtrahi et ignoranti equae subici. Ea optime tenebris fallitur... Sic nutritus admissarius equas diligere condiscit.

As soon as the foal of a donkey, such as I have described, is born, it should be taken away from its mother and put under a mare who has no knowledge of it. She is best deceived in dark conditions... A stallion brought up in this way learns to be affectionate toward mares.

⁸⁴ 'De hippiatricorum codice Cantabrigiensi', 56–7; *Anecdota Cantabrigiensia*, 12 ff. Aristotelian material in Varro in analysed by Hempel, who shows that Varro must have used an intermediate source, i.e. Cassius Dionysius: *De Varronis rerum rusticarum auctoribus quaestiones selectae*, 24–36.

⁸⁵ Varro II.1.27, Speranza, fr. 44.

⁸⁶ A.-M. Doyen-Higuet's survey of descriptions of horse- and mule-breeding in ancient authors does not discuss the relation of the texts to one another: 'L'accouplement et la reproduction des équidés', 533–56.

⁸⁷ Anat. M84 = B14.9, *CHGI* p. 82 (= *Geop.* XVI.6); Varro II.8.2; Col. VI.37.8; cf. Pliny VIII.171.

This passage elaborates upon an observation in Aristotle's discussion of mules:

οὐ προσδέχεται δ' οὔτε ἡ ἵππος τὸν ὄνον οὔτε ἡ ὄνος τὸν ἵππον, ἐὰν μὴ τύχῃ τεθλακῶς ὁ ὄνος ἵππον.⁸⁸

The mare does not accept a donkey, nor the donkey-mare a stallion, unless the donkey has been suckled by a horse.

Material concerning how to determine the age of an animal by inspecting its teeth in Columella, Varro, Anatolius, and Apsyrtus has been attributed to Mago–Cassius Dionysius by P.-P. Corsetti; the treatment of the subject is similarly related to that in Aristotle.⁸⁹

Mago is named as a source of veterinary treatments by Varro, though Varro does not include this technical material in his treatise, which, set in the form of dialogues, rich with antiquarian allusions, etymologies, and phrases in Greek, is obviously intended for the entertainment of the landowner rather than for day-to-day use in the barn. Varro briefly mentions the common causes of disease, but says that more detailed instructions for diagnosis and treatment are the province of the chief herdsman, and should be kept by the latter in written form. This statement, made in the introduction to the chapter on animals, is repeated almost word-for-word by Varro four other times in that chapter, apropos of sheep, goats, horses, and cows.⁹⁰ In the last instance, the source of the veterinary treatments is named:

De sanitate sunt conplura, quae exscripta de Magonis libris armentarium meum crebro ut aliquid legat curo.⁹¹

On the subject of health there are many rules; these have been copied down from Mago's treatise, and I see to it that my head herdsman is reading some of them repeatedly.

One of the few instances in which Varro describes a medical treatment is in the case of fever in cattle as a result of overwork. The similarity of the cures prescribed by Anatolius and Varro may be accounted for by the fact that both are known to have used Diophanes–Cassius Dionysius:⁹²

⁸⁸ HAVI.577b.

⁸⁹ 'Columelle et les dents du cheval'.

⁹⁰ II.5.18.

⁹¹ Cf. II.1.23 (livestock in general) quoted below; also II.2.20 (sheep): 'De sanitate sunt multa; sed ea, ut dixi, in libro scripta magister pecoris habet'. II.3.8 (goats): 'Quid dicam de earum sanitate, quae numquam sunt sanae? Nisi tamen illud unum quaedam scripta habere magistros pecoris, quibus remediis utantur ad morbos quosdam earum ac vulneratum corpus ...'. II.7.16 (horses): 'De medicina vel plurima sunt in equis et signa morborum et genera curationum, quae pastorem scripta habere oportet. Itaque ab hoc in Graecia potissimum medici pecorum ἱππιατροί appellati.' The passages are assembled by Reitzenstein, *De scriptorum rei rusticae ... libris deperditis*, p. 50.

⁹² M3 = B1.23, CHG I p. 9; *Geop.* XVI.4; Varro II.1.22–3. (In M part of the treatment has dropped out, leaving only ἄπαν τὸ σώμα; this loss may pre-date the M recension, since the entire sentence is omitted in B.) Could the passage be drawn directly from Varro? According to R. H. Rodgers, 'Greek agricultural writers were familiar with Varro and Vergil only as authoritative names in the literary tradition'; 'Varro and Vergil in the *Geoponica*', *GRBS* 19 (1978), 285.

Anatolius in *M*

Τὸν πυρέττοντα θεραπεύσεις
λουτρῷ θερμῷ, χειμῶνος δὲ
θαλπτέον ὥς μὴ ῥιγῶσαι. καὶ
τροφὴν ὀλίγην ὀρόβων ἢ
πυρίνων ἀλεύρων δοτέον καὶ
ποτὸν ὕδωρ χλιαρὸν
προσκομιστέον (. . .) ἅπαν τὸ
σῶμα καὶ διὰ κοιλίας
καθαρτέον. αἱμά τε ἐκ τοῦ
τραχήλου ἢ τῶν περὶ τὴν
φάρυγγα ἢ τὸ στήθος φλεβῶν
ἢ τοῦ ποδὸς ἀφαιρετέον.

You will treat the feverish
horse with a warm bath, and
in winter it ought to be
warmed so that it does not
shiver. And a little feed of
vetch-seeds or wheat flour
ought to be given and warm
water offered to drink (. . .)
the entire body, and the
belly purged. And blood
ought to be let from the
neck or the veins around the
throat or the chest, or from
those of the foot.

Geoponica XVI

Τὸν πυρέττοντα
θεραπευτέον θερμῷ λουτρῷ,
χειμῶνός τε θαλπτέον, ὥς μὴ
ῥιγῶῃ, καὶ τροφὴν ὀλιγίστην
ὀρόβων ἢ πυρῶν ἀλεύρου
δοτέον, καὶ ποτὸν ὕδωρ
χλιαρὸν προσκομιστέον,
οἶνω τε ἅμα ἐλαίῳ
χλιανθέντι ἀλειπτέον πᾶν τὸ
σῶμα, καὶ διὰ κοιλίας
καθαρτέον, αἱμά τε ἐκ τοῦ
τραχήλου, ἢ τῶν περὶ τὸν
φάρυγγα ἢ τὸ στήθος
φλεβῶν, ἢ τοῦ ποδὸς
ἀφαιρετέον.

The feverish horse ought to
be treated with a warm bath,
and in winter it ought to be
warmed so that it does not
shiver, and a little feed of
vetch-seeds or wheat flour
should be given, and warm
water should be offered to
drink, and the entire body
ought to be anointed with
wine and warm oil, and the
belly ought to be purged,
and blood ought to be let
from the neck or from the
veins around the throat or
the chest, or from those of
the foot.

Varro

Signa autem sunt ut eorum
qui e labore febrem habent
(os) adapertum umido
spiritu crebro et corpore
calido.

Curatio autem, cum hic est
morbus, haec: perfunditur
aqua et perungitur oleo et
vino tepefacto, et item cibo
sustinetur et incitur aliquid
ne frigus laedat; sitienti
aqua tepida datur. Si hoc
genus rebus non proficitur,
demittitur sanguis, maxime
e capite. Item ad alios mor-
bos aliae causae et alia signa,
in omni pecore quae scripta
habere oportet magistrum
pecoris.

Those which have fever
from overwork keep the
mouth open, pant fast with
moist breath, and have hot
bodies . . .

The following is the treat-
ment in such cases: the ani-
mal is bathed with water,
rubbed down with oil and
warm wine, and, further,
sustained with food, and a
covering is thrown over it to
prevent a chill; in case of
thirst tepid water is given. If
improvement is not
obtained by such treatment,
blood is let, usually from the
head. Other diseases have
other causes and symptoms,
and the man in charge of the
herd should keep them all in
written form.

Anatolius and Columella give more detailed information than Varro about veterinary medicine. Although certain remedies or practices are attributed to *τινές* or *οἱ δέ*, Anatolius does not mention the names of any sources in the passages excerpted in the *Hippiatrica*. But Columella's instructions for castrating calves, which are clearly attributed to Mago, are present in the *Geoponica* in an abbreviated form:⁹³

Anatolius (Geoponica XVII)

Διετείς δὲ γενομένους τοὺς μόσχους
εὐνουχιστέον. μετὰ γὰρ ταῦτα οὐ χρήσιμον
τὸ εὐνουχίζεσθαι. τὰ δὲ τραύματα σποδιᾷ
καὶ λιθαργύρῳ καταπλαστέον. μετὰ τρεῖς δὲ
ἡμέρας πίσση ὑγρὰ καὶ τέφρα ὀλίγου
μιγέντος ἐλαίου . . .

Calves ought to be castrated when they are two years old. After that to castrate is of no use. The wounds ought to be plastered with ash and litharge. And after three days with liquid pitch and ash mixed with a little oil . . .

Columella

Castrare vitulos Mago censet, dum adhuc teneri sunt . . . Nam ubi iam induruit, melius bimus quam anniculus castratur, idque facere vere vel autumnus luna decrescente praecepit vitulumque ad machinam deligare, deinde prius quam ferrum admoveas, duabus angustis ligneis regulis veluti forcipibus adprehendere et ipsos nervos, quos Graeci *κρεμαστήρας* ab eo appellant, quod ex illis genitales partes dependent comprehensos deinde testis ferro resecare et expressos ita recidere, ut extrema pars eorum adhaerens praedictis nervis relinquitur . . . Verum vulnera eius sarmenticio cinere cum argenti spuma linenda sunt . . . Placet etiam pice liquida et cinere cum exiguo oleo ulcera ipsa post triduum linire . . .

Mago is in favour of castrating calves while they are still young and tender . . . When the animal has grown tougher, it is better that it should be castrated as a two-year-old than as a one-year-old. He recommends that the operation take place in the spring or the autumn when the moon is waning, and that the calf should be bound in the machine; then, before applying the knife, you should seize between two narrow laths of wood, as in forceps, the sinews of the testicles, which the Greeks call 'hangers' because the genital parts hang from them, and then take hold of the testicles and lay them open with a knife and after pressing them out cut them off in such a way that their extremities are left adhering to the said sinews . . . The wounds should be anointed with ash of brushwood and litharge of silver . . . It is thought right also to anoint the actual sores after three days with liquid pitch and ashes mixed with a little oil . . .

⁹³ As noted by Heinze, 'Animadversiones in Varronis rerum rusticarum libris', 438. Col. VI.26.1–4 (the use of the Greek word *κρεμαστήρας* 'cremasters' may indicate that the ultimate source of the passage was in Greek)= Speranza frg. 43; *Geop.* XVII.8.2–3.

That this passage of Anatolius is found independently in a rough copy in P. Vindob. G 40302 recalls Varro's recommendation that the herdsman have at hand copies of Mago's veterinary remedies.

The same remedies are recommended in several instances by Anatolius and Columella: juice of fresh coriander for nosebleed, toasted grain for thinness, garlic for nausea. In both the *Hippiatrica* and the *Geoponica* the second two remedies appear together, under the heading *περὶ ἰάσεως διαφόρων νοσημάτων*, 'On the treatment of diverse ailments'.⁹⁴

Anatolius in M

Ἐὰν ἀπισχνούται ἵππος,
σίτου φρυγέντος καὶ κριθῶν
ὥπτημένων διπλάσιον
παραβλητέον αὐτῷ, τρὶς δὲ
τῆς ἡμέρας ποτιστέον . . .
ναυτιῶντας δὲ θεραπεύσεις
σκόρδων κοτύλῃ ἁ οἴνου
μίξας καὶ διδούς.

If the horse becomes very thin, roasted wheat and a double quantity of toasted barley ought to be given to it, and it ought to be watered three times a day . . .

You will cure those with nausea by mixing garlic with one *cotyle* of wine and administering it.

Geoponica XVI

Ἐὰν ἰσχναίνηται ὁ ἵππος,
σίτου φρυγέντος ἢ κριθῶν
ἐπτισμένων διπλάσιον
παραβλητέον αὐτῷ, καὶ τρὶς
τῆς ἡμέρας ποτιστέον . . .
ναυτιῶντα δὲ θεραπεύσεις
σκόρδα κοτύλῃ οἴνου μίξας,
καὶ δούς.

If the horse becomes thin, roasted wheat and a double quantity of hulled barley ought to be given to it, and it ought to be watered three times a day . . .

You will cure one with nausea by mixing garlic with a *cotyle* of wine and administering it.

Columella

Si sanis est macies, celerius torrefacto tritico quam hordeo et furfuribus reficitur, sed et vini potio danda est . . .

Sed nausea discutitur si caput alii tritum cum vini hemina saepius potandum praebeas.

If a horse is healthy but thin, it can be restored more quickly with roasted wheat than with barley and bran; but it must also be given wine to drink . . .

Nausea can also be stopped by frequently giving a bruised head of garlic in a hemina of wine to drink.

The similarity in character and ingredients between the remedies in *Geop.* XII (on the medicinal uses of plants) and those in the veterinary chapters is worthy of note: they are, for the most part, simple remedies calling for garden plants rather than complicated preparations calling for exotic *materia medica*.

⁹⁴ Nosebleed along with fever in M3 = B1.23, *CHG* I p. 10 = *Geop.* XVI.4.5; Col. VI.33.2; thinness and nausea together in Anat. M1066, *CHG* II pp. 103–4 = *Geop.* XVI.3.1; separate in Col. VI.30.1 and VI.34.1. The resemblance noted in his lexicon by Morelius, who considered the *Geoponica* a translation of the Latin agricultural writers; see *Verborum latinorum* . . . fo. ii^v and s.v. *macies*, in which these passages are quoted.

Cautery, bloodletting, and enemas are employed; the medical instruments are not described, nor is surgery recommended.

The remedy for cough in horses given by Anatolius resembles one in Columella, but is closer to Columella's prescription for cows.⁹⁵ (In Columella, as in *Geop.* XVI–XVIII, certain remedies are 'recycled' for use in different animals.⁹⁶) Africanus gives the same remedy: is he Anatolius' source in this instance, or did both use the Quintilii? In this passage, Africanus is closer to Columella than to Anatolius.

<i>Anatolius in M</i>	<i>Geoponica XVI</i>	<i>Columella (cows)</i>	<i>Julius Africanus</i>
Ἀρχομένῳ βήσσειν ἄλευρα κρίθινα καὶ ὀρόβων κνάμων μιχθέντων δίδου πιεῖν.	Ἀρχομένῳ βήττειν ἄλευρα κρίθινα, ὀρόβων ἢ κνάμων μιχθέντων, διδόναι χρῆ πιεῖν . . . ἐὰν δὲ μὴδ' οὕτως παύηται . . . οἱ δὲ πράσου ὀπὸν καὶ ἐλαιον, καὶ πηγάνου ἀγρίου ρίζης.	Recens tussis optime salivato farinae hordea- ceae discutitur. interdum magis prosunt gramina concosa et his admixta fresa faba. lentis quoque valvulis exemptae et minute molitae miscen- tur aquae calidae sextarii duo, factaque sorbitio per cornu infunditur . . . Veterem tussim sanant . . . porri etiam sucus cum oleo . . .	Ἴππῳ βήσσουντι θεραπεία φακὸς ἐπιτισμένος, ἣν δίχα τῶν ἐλύτρων ἄκρως ἀλέσας ἢ λειώσας ἅμα ὕδατι ποτίσης. μέτρον δὲ τοῦ ὀσπρίου ζῶν παντὶ καθ' αὐτὸ ξέστου τέταρτον ἂν εἴη σύμμετρον.

⁹⁵ M469 (= B22.19), *CHG* I p. 109; *Geop.* XVI.11; Col. VI.10.1 (cf. the remedy for horses in VI.31.1). Numerous remedies for cows in *Geop.* XVII have parallels in Col., e.g. *Geop.* XVII.17; Col. VI.6.1. Vieillefond, *Les 'Cestes'*, I.12, pp. 147–9.

⁹⁶ Cf. Col. VI.38.4. 'Cetera exequemur in mulis sicut prioribus huius voluminis partibus tradidimus, quae curam boum equarumque continent'. There is a certain amount of repetition in *Geoponica* XVI, XVII, and XVIII: for example, treatments for cough and mange appear in all three books (cough: *Geop.* XVI.11, XVII.21, XVIII.17.3; mange: XVI.18, XVII.24, XVIII.15). A number of cross-references show that some effort was made to avoid repetition: the procedure for removing leeches from the mouths of horses is recommended for use in other animals, *τούτῳ δὲ χρήσῃ καὶ πρὸς βοῦς, καὶ τὰ ἄλλα ζῶα*, 'you may use this for cows, and for other animals' (*Geop.* XVI.19). A treatment for indigestion in cows is followed by a note that *τοῦτο δὲ οὐ τοὺς βοῦς μόνον, ἀλλὰ καὶ πᾶν ὠφελεῖ βόσκημα*, 'this is beneficial not only for cows, but for all livestock' (*Geop.* XVII.17.3). And in the chapter on sheep, a remedy is given for bites and stings, with the advice that *καὶ ὅσα ἐπὶ τῶν βοῶν καὶ τῶν λοιπῶν προείπομεν ποιητέον*, 'also, whatever we have already said in the case of cows and the rest may be done' (*Geop.* XVIII.17.7). Similarly, advice on breeding sheep is followed by *δοκεῖ δὲ καὶ ἐπὶ τούτων, καὶ ἐπὶ πάντων τῶν ζῴων τὸ αὐτὸ ἀρμόζειν*, 'the same is suitable both for these and for all animals' (*Geop.* XVIII.3.6).

To one who has begun to cough, give to drink barley flour and vetch-seeds mixed with beans.

To one who has begun to cough, it is necessary to give to drink barley flour mixed with vetch-seeds or beans . . .

A cough that has just begun is best treated with a drench of barley flour. Sometimes grass cut up and mixed with crushed beans is more beneficial; lentils removed from their husks and ground fine are mixed with two sextarii of hot water

The treatment for a horse with cough is pounded lentil, which you grind or pound fine without the husk, and give to drink with water. Let the amount of the pulse for every animal be the same in measure as a fourth of a xestes.

If it does not stop in this way, some [give] leek-juice and oil, and the root of wild rue.

And leek-juice with oil is also a cure for a long-standing cough.

Two passages which bring to mind Photius' criticism of superstitious elements in Anatolius may be drawn from Africanus (although they may equally well have come from Democritus). The first, an amulet of stag's horn is recommended in *Geoponica* XVI, but is absent from the text in M:

ἵππος δὲ καθόλου οὐ νοσεῖ, ἐὰν ἐλάφου κέρασ τούτῳ περιάψῃς.⁹⁷

A horse will not fall ill at all, if you affix to it as an amulet a stag's horn.

The same advice appears in the *Kestoi*.⁹⁸

Πρὸς <τὸ τοῦς> ἵππους μὴ νοσεῖν.

οὐ μὴ νοσήσουσιν <οἱ> ἵπποι, εἴ τις ἐξ ἐλάφου κέρως λαβὼν ὀλίγον καὶ ποιήσας αὐτὸ ὡς κόσμον τῷ τραχήλῳ, περιάψῃ.

So that horses will not fall ill:

Horses will not fall ill, if someone takes a bit of stag's horn, makes it into an ornament, and affixes it as an amulet to the neck.

The verb *περιάπτω* is a technical term used in connection with magical practices.

The concision of Anatolius' text in this instance makes it difficult to be certain about his source; the line of advice about the stag's horn amulet does not preserve Africanus' florid prose style.

⁹⁷ The amulet is mentioned twice, at *Geop.* XVI.1.17 and XVI.3.6; it also appears anonymously in C108.4, *CHG* II p. 249.

⁹⁸ Vieillefond, *Les 'Cestes'*, II.10, p. 211; for other amulets for horses in the *Kestoi*, see *ibid.* I.9–10, p. 139; for parallels in Aelian, Pliny, and Timothy of Gaza, cf. Vieillefond's notes 62 and 66, p. 340. Cf. Aristotle, *HAVIII* (IX), 611a for the idea that stag's horn has magical properties.

A description of how to determine the colour of a foal, present both in M and in *Geoponica* XVI, also represents an interest in the irrational, and especially in changing the colour of an animal's coat, typical of the *Kestoi*:

τινὲς δὲ φιλοκαλώτερον ποιοῦσι τὸν βιβάζοντα ὄνον εἴτε ἵππον εἴτε ἄλλο τι ζῶον, χρώματος οἷου βούλονται γίνεσθαι τὸ τικτόμενον, τοιοῦτω καὶ ἱματίῳ περικαλύπτουσιν. ὁποῖον γὰρ ἂν ᾖ τὸ τοῦ ἱματίου χρῶμα, οὗ ὁ ἵπποβάτης περικαλύπτεται, τοιοῦτο καὶ τὸ τικτόμενον ἔσται.⁹⁹

Some are more meticulous: they cover up the stud donkey or horse or other animal in a cloak of whatever colour they wish the offspring to be. Whatever the colour of the cloak with which the stud is covered up, the offspring will be the same.

THE 'EXCERPTA ANATOLIANA' IN C

The C recension begins with a series of twelve excerpts on the selection and breeding of the horse.¹⁰⁰ Anonymous in the Cambridge manuscript, and falsely attributed to Hierocles in L,¹⁰¹ these excerpts were identified by Oder as the work of Anatolius on the basis of their correspondence to *Geop.* XVI, and to the excerpts attributed to Anatolius in the *Hippiatrica*.¹⁰² They fall into eight parts:

1. Discerning a horse's virtue while it is a foal (ἀρετῆς ἵππου πρόγνωσις ἐκ πώλου);
2. Choosing a horse for stud, and timing of breeding (ἵππου ὀχευτοῦ ἐκλεξις καὶ χρόνος τῆς ὀχείας);
3. Care of mares in foal (κυουσῶν ἵππων ἐπιμέλεια);
4. Care of the foal from birth (πώλων ἀπὸ γέννας ἐπιμέλεια);
5. How and when one ought to break horses (πότε δαμασθῆναι δεῖ τοὺς ἵππους καὶ πῶς);
6. Points of a good horse (ἵππου αγαθοῦ δοκιμασία);
7. Points of a bad horse (ἵππου σκολιοῦ δοκιμασία);
8. Qualities of horses according to their breed (ἵππων φύσεις κατὰ ἔθνος).

These correspond to the first part of *Geop.* XVI. Passages in C correspond to excerpts in *Geop.* XVI with no equivalent in the *Hippiatrica*,¹⁰³ and also to

⁹⁹ M82 = B14.9, *CHG* I pp. 82–3 = *Geop.* XVI.21. Cf. C44.4, *CHG* II p. 177, probably an excerpt from Africanus (Vieillefond, *Les 'Cestes'*, 221).

¹⁰⁰ *Excerpta Anatoliana* 1–12, *CHG* II pp. 115–21.

¹⁰¹ In his preface, Hierocles states expressly that he will not speak of breeding and training, B1.10, *CHG* I p. 4.

¹⁰² 'De hippiatricorum codice Cantabrigiensi', 52–69; *Anecdota Cantabrigiensia; Excerpta Anatoliana*, *CHG* II pp. 115–21.

¹⁰³ *Geop.* XVI.1.8–10, *Excerpta Anatoliana* 1, *CHG* II p. 115.

Anatolius excerpts in the *Hippiatrica* not present in *Geoponica* XVI. The description of the traits of body and character desirable in a horse is very close to Simon, Xenophon, Vergil, Varro, and Columella: the excerpts in C clearly belong to the same tradition.¹⁰⁴

Excerpta Anatoliana

Ἡ τοῦ ἵππου ἀρετὴ ἐκ
πρώτης ὑποφαίνεται τῆς
ἡλικίας—παρατηρητέον οὖν
καὶ παρακολουθητέον αὐτοῦ
τῇ φύσει ὄντος ἔτι
πώλου—ὅταν σπουδάζῃ τῶν
συννόμων πώλων τὰ πρώτα
φέρεισθαι ἀμιλλῶνται γὰρ
πρὸς ἀλλήλους καὶ
διασκιρτοῦσι καὶ ἐπὶ τὸ ὕδωρ
προτρέχουσι προεμβαίνοντες
καὶ μὴ ἀναμένοντες τὰς
μητέρας ὑπὸ δειλίας τῆς περὶ
τὸ ὕδωρ καὶ τῆς ἐν αὐτῷ
σκιάς.

The excellence of a horse is evident from the earliest age—therefore one ought to observe and watch its nature while it is still a foal—when it strives to be first of its fellow foals in the herd. For they compete with one another and gambol about and run up to water, going in first, and not waiting for their dams in fear of the water and of the shadows in it.

Geoponica XVI

Τὸν δὲ πῶλον τὸν ἐσόμενον
ἀγαθὸν διαγνωσόμεθα οὕτως
... ἀπὸ δὲ τῶν ψυχικῶν
οὕτω δοκιμάζεται, ἐὰν μὴ ᾗ
ἐπτοημένος μηδὲ ὑπὸ τῶν
αἰφνιδίως φαινομένων
ἐκταραττόμενος, ἔν τε τῷ
συναγελασμῷ τῶν πώλων
φιλόπρωτος, οὐκ εἴκων, ἀλλ'
ἐξωθῶν τὸν πλησίον, ἐν δὲ
τοῖς ποταμοῖς καὶ λίμναις
οὐκ ἀναμένων ἕτερον
προεμβαίνειν, αὐτὸς δὲ
ἀκαταπλήκτως τοῦτο
πρῶτος ποιῶν.

We recognize the foal who will be good thus... It is thus evaluated from qualities of spirit: if it is not frightened, nor perturbed by things happening suddenly; while in the herd of foals it is competitive, not giving way, but pushing aside the one next to it, and not waiting at rivers and lakes for another to go ahead but, undaunted, going in first.

Columella

Cum vero natus est pullus, confestim licet indolem aestimare; si hilaris, si intrepidus, si neque conspectu novae rei neque auditu terretur, si ante gregem procurrit, si lascivia et alacritate, interdum et cursu certaminis aequalis exsuperat, si fossam sine cunctatione transilit, pontem flumenque transcendit, haec erunt honesti animi documenta

As soon as a foal is born, it is possible to judge its natural qualities immediately. If it is good-humoured, if it is courageous, if it is not alarmed by the sight or sound of something new; if it runs in front of the herd, if it surpasses its age-mates in playfulness and eagerness on various occasions and in racing, if it leaps over a ditch and crosses a bridge or a river without baulking—these are the signs of generous mettle.

A description of the adornment of mares, absent from the *Geoponica*, is present in M:¹⁰⁵

¹⁰⁴ Simon, C93.1–10, *CHG* II pp. 229–31; Xen. *De re equ.* I.1; Varro II.7.5; Col. VI.29.2–3; Vergil, *Georgics* III. 79 ff.; cf. *Anecdota Cantabrigiensia*, 14 ff.

¹⁰⁵ M83 = B14.8, *CHG* I p. 81; *Excerpta Anatoliana* 3, *CHG* II pp. 116–17.

Anatolius in M

τινὲς ἐρωτικούς ἵππους ἐπετήδευσαν πρὸς τὰς
θηλείας ποιῆσαι, καὶ κοσμεῖν αὐτὰς κόσμῳ τε
τῶν οἰκείων τριχῶν καὶ ἄλλοις περικαλλέσιν
εἰώθασι τὸν ἵππικὸν κοσμεῖν.

Some people use artifice to make horses desirous of the females, and adorn the latter with ornaments of their own hair and the other finery with which people are accustomed to adorn equines

Excerpta Anatoliana

τινὲς δὲ ταῖς οἰκείαις χαίταις κοσμοῦσιν
αὐτὰς προστιθέντες παρήϊά τε καὶ τῶν
λοιπῶν ἵππων κόσμον, τό τε χρώμα
στυλβούντες οὐ ταῖς ψήξεσι μόνον ἀλλὰ καὶ
χρώματος ἐντρίψει ἐπικοσμοῦσιν αὐτάς.

And some people adorn them with their own manes putting on bridle ornaments and other horse ornaments, and they polish their colour not just with grooming, but further adorn them by rubbing in pigment.

The three texts are obviously closely related in content and in language; yet the excerpts in C, if derived from Anatolius, represent a thorough reworking of his text. In some passages the text of C is an abbreviated version of that in the *Hippiatrica* or the *Geoponica*, while in others the version in C is more elaborate, for example in the list of points of the horse.¹⁰⁶

Geoponica XVI

στήθος εὐρὺ μεμνωμένον
chest broad and muscular
βραχίονας ὀρθοὺς
forearms upright
ὠμοπλάτας μεγάλας
shoulder blades large

Excerpta Anatoliana

στήθος εὐρὺ πλήρες καὶ μεμνωμένον
chest broad, full, and muscular
βραχίονας ὀρθοὺς διηρθρωμένους
forearms upright and distinct
ὠμοπλάτας μεγάλας διατετυπωμένας
shoulder blades large and well-defined

One cannot attribute this reworking to the compiler of C, whose scissors-and-paste method is attested by ‘fossilized’ cross-references preserved in the text of the excerpts.¹⁰⁷ And the different readings of C are not to be dismissed as later interpolations: a reference to preventing the soft hooves of the foal from being burnt by dung, though not present in the *Hippiatrica* or *Geoponica*, is in Columella.¹⁰⁸ *Διηρθρωμένον* appears in Plato’s description of an ideal horse.¹⁰⁹ Since there is a large family of similar texts derived from

¹⁰⁶ *Geop.* XVI.1.9; *Excerpta Anatoliana* 10–11, *CHG* II pp. 120–21.

¹⁰⁷ e.g. τὸ δὲ εἶδος ὡς προειρήκαμεν and οἷς ἐπὶ τῶν βοῶν προεῖρηται χρηστέον, *CHG* II pp. 115 and 117.

¹⁰⁸ Col. VI.27.12; corrupt in Varro, *RR* II.7.11, but the correct word figured in the text of the lost MS of Varro collated by Politian against his copy of the *editio princeps* of the text; Oder, *Anecdota Cantabrigiensia*, 11. On the MS, see D. Flach, *Marcus Terentius Varro, Gespräche über die Landwirtschaft*, vol. I (Darmstadt, 1996), 44–53.

¹⁰⁹ *Phaedrus* 253d.

Cassius Dionysius, and since a common feature of these texts is the presence of information on choosing and breeding livestock, it is possible that the anonymous excerpts come not from Anatolius, but from another author in the tradition. That texts derived from *retractatio* of the same source may be extremely close in wording is illustrated by Dain's analysis of the tacticians Aelian and Arrian;¹¹⁰ we shall see that there are numerous examples among the hippiatric authors of such resemblance. It is unlikely that the compiler of C had access to a complete text of Diophanes—one cannot, however, rule out this possibility, since the more ancient text of Simon was evidently available. But one may also think of the Quintilii, Tarantinus, or other related works on agriculture. The work of Tiberius, which belongs in this family, contained material on both horses and cows, and was excerpted by the compiler of C, is another possibility.

The excerpts on breeding at the beginning of C are followed by a list of breeds of the horse in alphabetical order from Ἀρμένιοι to Ὑρκανοί, 'Armenians' to 'Hyrceanians'.¹¹¹ This list is conventionally attributed to Timothy of Gaza, grammarian and orator during the reign of Anastasius I (491–518),¹¹² since an epitome of Timothy's text on animals contains the lemma of a (lost) chapter on the qualities of horses in relation to their place of origin.¹¹³ Longer excerpts of Timothy's work are preserved in the Bestiary of Constantine VII: these contain numerous other parallels to the *Hippiatrica*, mostly in the category of paradoxa, and probably derived from Aristophanes of Byzantium. But Timothy, also a compiler,¹¹⁴ no doubt appropriated the list of breeds from another author. It is possible that the list of breeds in C is derived from the same source as the first few excerpts. Indeed, the association, as in the *Excerpta Anatoliana*, of a description of the points of the horse with a list of breeds, descriptions of breeding practices, and branding with leopard-spots is found in the *Cynegetica* of ps.-Oppian, which, dedicated to Caracalla in the late second or early third century, is three centuries earlier than the work of Timothy.¹¹⁵

¹¹⁰ *Histoire du texte d'Élien le tacticien*, 26 ff.

¹¹¹ CHG II pp. 121–4.

¹¹² On Timothy, see R. Kaster, *Guardians of Language: The Grammarian and Society in Late Antiquity* (Berkeley, Los Angeles, London, 1988), 368–70.

¹¹³ M. Haupt, 'Excerpta ex Timothei Gazaei libris de animalibus', 27.1; see also Bestiary, ed. Lambros, p. XII–XIII, Oder, *Anecdota Cantabrigiensia*, 30. See p. 219, below.

¹¹⁴ Wellmann, 'Timotheos von Gaza', 179–204, where parallels between Timothy's text and those of ps.-Oppian and Africanus are noted. *Cyn.* I. 158–315, Oder, *Anecdota Cantabrigiensia*, 6.

¹¹⁵ *Cyn.* I.168–204, also containing the story of the suicide of a stallion deceived into covering his dam, to which there is an abbreviated reference in *Excerpta Anatoliana* 3, p. 117: εἰδέναι δὲ χρὴ, ὡς εὐγενὴς ἵππος οὐτε μητρὶ μίγνυται οὐτε ἀδελφῇ (regarded as an interpolation by Oder, *Anecdota Cantabrigiensia*, 7).

Eumelus

EUMELUS is probably the earliest of the hippiatric authors in the compilation, but can only be dated in relation to Apsyrtus, who made use of his work.¹ Eumelus' treatise appears to be the earliest text in Greek to have been devoted solely to the veterinary treatment of horses and cows; however, it does not represent an innovation, but rather an offshoot from the tradition of agricultural manuals in Greek and Latin. Striking instances of word-for-word correspondence with Columella, Pelagonius, and Anatolius illustrate Eumelus' dependence upon the agricultural tradition, and imply that he copied his source or sources without much alteration. Through Apsyrtus, Eumelus' advice reappears in the treatises of Theomnestus and Hierocles, as well as in the Latin *Mulomedicina Chironis*. Hierocles, following Apsyrtus, mentions Eumelus by name; but no other authors do so.

EUMELUS' TEXT

Eumelus' text is unknown outside of the *Hippiatrica*. The M recension of the compilation contains seventy-seven excerpts attributed to him; of these, fifty-nine appear (some only in part) in the B recension; twenty-five of these anonymously.² Two excerpts in the B recension do not appear in M.³ The excerpts attributed to Eumelus in the *Hippiatrica* contain no trace of a preface or conclusion, and little evidence of how the treatise was organized; it is possible that they represent only a selection from Eumelus' treatise, or that the treatise was loosely structured. The excerpts are not consistent in format: some describe the symptoms and (more rarely) the causes of the malady before prescribing a treatment, while others consist simply of a rubric and a

¹ On Eumelus, see M. Wellmann, 'Eumelus (14)', *RE* VI (1909), col. 1081; G. Björck, 'Zum CHG', 56–9.

² Anonymous excerpts are listed in *CHG* II p. ix.

³ B69.25–6 (*ψώρα*), *CHG* I p. 276 (anonymous in B but attributed to Eum. by Oder and Hoppe on the basis of similarity to Columella; cf. *CHG* II p. ix).

recipe. Several groups of excerpts consecutively numbered in M appear to have been continuous in the original, e.g. series of passages on wounds, eye conditions, cough, ailments of the digestive system, and parasites.⁴ There are a few references to frequently recommended procedures or drugs, such as bloodletting or treatments for wounds:

αἷμα τοῦ σφονδύλου λαμβανέσθω τρώπῳ τῷ εἰρημένῳ⁵

Let blood be taken from the neck in the way that has been mentioned.

τὰ τραύματα θεραπεύσεις ὡς εἴρηται⁶

Treat the wounds as it has been said.

τὸ δὲ ἔλκος τοῖς τραυματικοῖς βοηθήμασι θεράπνευ⁷

Treat the wound with the wound remedies.

Most of these references are too unspecific to be of much use in reconstructing the original order of the chapters; for example, the phrase τὰ δὲ κεκαυμένα τῷ προειρημένῳ τρώπῳ θεράπνευε, ‘treat the cauterizations in the aforesaid manner’, appears in several places; it may refer to a lost chapter on cautery, or to the chapter on treatment of different types of wounds (M248).⁸ Some allusions are more helpful, e.g.

ἐὰν ἀπὸ τῶν ἀρτηρίων κάμῃ τὸ ζῶον, ἔξει τὰ αὐτὰ τοῖς ὀρθοπνοικοῖς σημεῖα . . . τροφῇ δὲ τῇ περὶ ὀρθοπνοικῶν εἰρημένη⁹

If the animal is suffering from its windpipe, it will have the same symptoms as those with *orthopnoia* . . . the feed described apropos of those with *orthopnoia*

from which we may deduce that the chapter about ὀρθόπνοια (M30) was before the one on ἀρτηρίαι (M1094). Another cross-reference, in the chapter on worms, is informative not only about the organization of Eumelus’ text, but about his use of sources:

βαλεῖν τοίνυν χρὴ τὴν χεῖρα κατὰ τῆς γαστροῦς, ὡς εἵπομεν, καὶ τὰ περιττώματα μετὰ τῶν ἐλμύγγων ἀφέλκειν.¹⁰

It is necessary to insert the hand toward the stomach, as we said, and to remove the faeces along with the worms.

The discussion of worms, ἐλμεις (M724) seems to have come after that of bile, χολή (M638 = B75.9), where the procedure for removing faeces is described

⁴ Wounds: M248–50, eye conditions: M363–7, cough: M470–2, ailments of the digestive system: M578–1, parasites: M724–6, 733.

⁵ M641, CHG I p. 291 apparatus.

⁶ M127 = B52.8, CHG I p. 232 apparatus, also M427 = B29.8, CHG I p. 149.

⁷ M580 = B66.7, CHG I p. 261; also cf. M581 = B66.8, *ibid*.

⁸ M107 = B16.4, CHG I p. 90.

⁹ M1094, CHG II pp. 107–8.

¹⁰ Eum. M638 = B75.9, CHG I pp. 289–90; M724, CHG II pp. 85–6; Col. VI.30.8–9.

without a cross-reference. The chapters on bile and worms are consecutive in Columella too, and the same cross-reference appears in Columella's text. It is clear that not only the content but also the structure and style of Eumelus' treatise are to a large extent taken over from his source or sources.

EUMELUS' IDENTITY

Eumelus does not, in what remains of his text, divulge much information about himself—he does not even use the first person. But Apsyrtus, who ought to be a good authority in these matters, calls him *Εὔμηλος ἵππιατρός μέγας*, 'Eumelus the great horse-doctor',¹¹ which would seem to suggest that Eumelus was not simply a compiler but a practitioner as well. And indeed, the content of the treatise appears to have been restricted to the treatment of horses and cows—unlike the agricultural manuals, which cover a greater array of subjects. Apsyrtus also refers to him as *Εὔμηλος ὁ Θηβαῖος*, 'Eumelus the Theban',¹² but without specifying from which of the cities (nine, according to Stephanus) of that name. The name seems to have been used in and near Boeotia in Late Antiquity,¹³ and the association of that region with horse-breeding, racing, and the hunt¹⁴ lends some support to the argument that Eumelus came from there. (Theomnestus also cites a Theban veterinary author, one Hippaios, making it clear that he is *Θηβαῖος ἀπὸ τῆς Ἑλλάδος Θηβῶν τῶν ἑπταπόλων*, 'a Theban from Seven-Gated Thebes in Greece'.)¹⁵ On the other hand, Thebes-Luxor might also be a possibility, since at least one horse-doctor was attached to the Roman cavalry corps stationed there: graffiti on the lintel of the temple of Isis and Serapis at Hieria Sykamina (Maharrakeh) commemorate the proskynesis of a member of the *cohors I Thebaeorum equitata* together with one Gaius Aufidius, who identifies himself as an *ἵππωιατρός (sic)*.¹⁶

In the absence of specific information about Eumelus' date, we may try to derive a sense of his chronological relation to Apsyrtus from the latter's quotations. Apsyrtus mentions Eumelus by name three times, each time

¹¹ M170 = B10.1, *CHG* I p. 56 (see apparatus for text of M).

¹² M13 = B2.7, *CHG* I p. 17.

¹³ See *LGPN* IIIB. Our Eumelus is no. 7. The first appearance of the name, in *Iliad* 2.763 ff., is, interestingly enough, associated with horses: ἵπποι μὲν μέγ' ἄρισται ἔσαν Φηρητιάδῃ | τὰς Εὔμηλος ἔλαυνε ποδώκεας ὄρνιθας ὥς.

¹⁴ See S. Symeonoglou, *The Topography of Thebes* (Princeton, 1985), 110.

¹⁵ M33, *CHG* I p. 26.

¹⁶ *CIG* 5117. Aelian tells the story of a cavalry officer named Lenaios whose horse was cured of an eye injury by treatments at a temple of Serapis (*NA* XI.31).

using the perfect tense, which may imply more distance in time than the imperfect¹⁷—and each time, we may note, in a critical manner:

εἴρηται δὲ καὶ Εὐμήλω ἵπποιατρῷ μεγάλῳ μάλιστα δεῖν μὴ ἐθίζειν τοὺς ἵππους αἷμα ἀφαιρεῖν, οὐκέτι δὲ προσέθηκεν τὴν αἰτίαν.¹⁸

It has been said by Eumelus the great horse-doctor that one should above all not accustom horses to having blood let; however he did not add the reason.

ἐὰν δὲ ὑπέρτονος γένηται τῷ κόπῳ, μηδὲ εἰς δεῖπνον κριθὰς διδόναι. τὸ αὐτὸ δὲ καὶ Εὐμήλῳ δεδήλωται. παρήλθε δὲ αὐτὸν τοῦτο . . .¹⁹

If the horse is stressed from exertion, do not give it barley for its dinner. The same has been made clear by Eumelus. But this escaped him . . .

It is difficult to identify the passages in Eumelus to which Apsyrtus refers. In his discussion of glanders, Apsyrtus refers to Eumelus in a way that suggests he is quoting directly:²⁰

(Περὶ μάλεως ξηρᾶς)

τῷ τοιοῦτῳ οὐκ ἔστι θεραπεία, ἀλλὰ διαφωνεῖ, ὡς εἴρηται καὶ Εὐμήλῳ τῷ Θηβαίῳ τῆς δὲ ξηρᾶς μάλεως οὔτε ἐγὼ ἱατρός οὔτε ἄλλος τις. τὴν δὲ αἰτίαν δηλώσω, ὅτι ὁ πνεύμων ῥήγνυται πρὸς τὴν δεξιὰν πλευρὰν, καὶ ἔστι πλευριτικός.

(On dry glanders)

There is no treatment for such a one, but it dies, as is said also by Eumelus the Theban: Of dry glanders neither am I a healer nor is any other. I will make clear the reason, namely that the lung ruptures on the right-hand side, and it becomes afflicted with pleurisy.

The allusion is identified by Oder as a reference to Eumelus' chapter on dyspnoea (cf. Eumelus' definition: δύσπνοια ζώοις πάθος ἐπικινδυνότατον. τοῦτο πολλοὶ μάλιν ὀνομάζουσιν, 'dyspnoea is a disease very dangerous to animals; many call it *malis*').²¹ Procedures and remedies recommended by Eumelus often appear in Apsyrtus attributed to *τινές* or to *οἱ πρὸ ἡμῶν*, 'some people', or 'our predecessors', and criticized or rejected. A number of these passages reappear in Hierocles and Theomnestus, but these authors simply reproduce Apsyrtus' references, whether to Eumelus or to unspecified predecessors, without providing additional information. If *οἱ πρὸ ἡμῶν* refers to Eumelus, it still does not provide a precise indication of his date, so we may

¹⁷ Whereas use of the imperfect might imply that Apsyrtus was a contemporary of Eumelus and had heard his opinions habitually expressed; cf. Honore's discussion of the use of tense in quotations by legal writers, *Gaius*, pp. xiv ff.

¹⁸ M170 = B10.1 (variants of M in apparatus), *CHG* I p. 56.

¹⁹ M74 = B10.3, *CHG* I p. 57.

²⁰ Aps. M13 = B2.8, *CHG* I p. 17; Eum. M1096 = B27.5, *CHG* I p. 141.

²¹ M29, *CHG* II p. 31. Oder, 'Apsyrtus: Lebensbild', p. 132; questioned by Björck, 'Zum *CHG*', 58 f.

only conclude that Apsyrthus provides a *terminus ante quem* for Eumelus of the late third or early fourth century.

SOURCES

Although it is obvious that Eumelus made extensive use of at least one other text in composing his own, he does not cite any sources by name. The only instance of another name associated with Eumelus' text is in the lemma of the excerpt on fever, which in M reads *Εὐμήλου ἦτοι Ἡρωνος*, 'Eumelus or Hero', and in B *Εὐμήλου ἦτοι Χείρωνος*, 'Eumelus or Cheiron'.²² The latter is probably a correction by the editor of the B recension; the text does not appear in the *Mulomedicina Chironis*. The fever treatment appears in part in Columella. Oder and Hoppe tentatively suggested (later retracting the suggestion) that the name might originally have been Hieron, by analogy with an excerpt on *ἐλεφαντίασις* labelled *Ἱέρωνος*.²³ This Hieron excerpt, which displays traits of style similar to those present in the rest of Eumelus' text, appears with no attribution in the recently discovered Einsiedeln manuscript of Pelagonius.²⁴

Where he refers to *τινὲς δὲ... ἕτεροι δὲ... ἄλλοι δέ*, comparison with Columella reveals that Eumelus has taken over these citations at second hand:²⁵

Eumelus

(Πρὸς χολὴν ἐπαχθῇ)

τινὲς δὲ σμύρνης λελειωμένης γὼ γ' μετὰ
ἡμίνας οἴνου εἰς τὸν λαμὸν ἐμβάλλουσιν, καὶ
τὸν δακτύλιον πίσση ὑγρᾷ ἀλείφουσιν. ἕτεροι
δὲ θαλαττίῳ ὕδατι τὴν γαστέρα κλύζουσιν.
ἄλλοι δὲ νεαρᾷ ἄλμῃ τὸ αὐτὸ διαπράττονται.

For troublesome bile:

Some people inject into the throat three ounces
of ground myrrh with a hemina of wine, and
anoint the anus with liquid pitch. Others
cleanse the stomach with an enema of seawater.
Others do the same with fresh brine.

Columella

(Si bilis molesta iumento est) quidam
murrae tritae quadrantem cum hemina vini
faucibus infundunt, et anum liquida pice
oblinunt. Alii marina aqua lavant alvum,
alii recente muria.

If bile is troubling the horse:

Pour into the jaws a quadrans of ground
myrrh with a hemina of wine, and anoint
the anus with liquid pitch. Others cleanse
the stomach with seawater, others with
fresh brine

²² M4 = B1.24, *CHG* I p. 10.

²³ The reading *Ἱέρωνος*, 'Hiero', proposed by Oder and Hoppe, *CHG* I p. 10 apparatus, is retracted *CHG* II p. ix. A passage on glanders attributed to Hieron of Syracuse is present in R: see Björck, 'Zum *CHG*', 12. It also figures in the *Epitome*: see Doyen-Higuet, 'Un manuel grec', III, 5.

²⁴ E 529 bis, Corsetti, 'Un nouveau témoin', 55. The relation between the Hieron passage and Pelagonius is discussed by Adams, 'Notes on the Text, Language, and Content of Some New Fragments of Pelagonius', *CQ*, ns 42 (1992), 490–3.

²⁵ M638 = B75.9, *CHG* I pp. 289–90, Col. VI.30.9.

There are some twenty instances, among the seventy-nine fragments of Eumelus' text, in which all or part of the chapter has a word-for-word parallel in Columella. These similarities were first noted by Ihm, who in the preface to his edition of Pelagonius expressed the opinion that Eumelus was translating Columella.²⁶ This idea was accepted, after some hesitation,²⁷ by Oder and Hoppe, who account for the differences between the two texts by reasoning that 'certainly a horse-doctor skilled in his art could amend his source' (*nimirum veterinarius artis peritus auctorem suum etiam corrigere poterit*).²⁸ There are also about twenty passages in Eumelus that are very close to Pelagonius. Their similarity cannot be accounted for by the fact that Apsyrtus uses Eumelus and is in turn used by Pelagonius: as we shall see, Apsyrtus usually alters Eumelus' advice, if not rejecting it outright. Now, Pelagonius uses Columella, often quoting him by name; and indeed some of the parallels between Eumelus and Pelagonius might be ascribed to use by both of Columella. For example, Eumelus and Pelagonius echo Columella's—and Varro's—description of the common causes of disease.²⁹

<i>Eumelus</i>	<i>Varro</i>	<i>Columella</i>	<i>Pelagonius</i>
Νόσον ὡς ἐπὶ τὸ πλείστον λαμβάνει τὰ ζῶα ἀτονίᾳ καὶ καύματι, καὶ κρύει δὲ τὸ αὐτὸ ὑφίσταται, ἥ ὅτι ἐπειχθὲν μὴ ἀπουρήσῃ, ἥ μετὰ ιδρώτα πίῃ καὶ ἀπὸ πολλῆς ἀργίας εἰς πολὺν ἔλθῃ δρόμον καὶ ἐξατονοῦν [ἐξατονῶν <i>M</i>] γένηται. θεράπευε οὖν οὕτως, ἔλαιον εἰς τὸν λαιμὸν ἐμβαλὼν ἢ στέαρ σὺν οἶνῳ ὁμοίως διδούς.	Fere morborum causae erunt quod laborant propter aestus aut propter frigora, nec non etiam propter nimium laborem aut contrariam nul- lam exercitationem, aut si, cum exer- cueris, statim sine intervallo cibum aut potionem dederis... Curatio autem, cum hic est morbus, haec: per- funditur aqua et perungitur oleo et vino tepefacto...	Plerumque iumenta morbos concipiunt lassitudine et aestu, non numquam et frigore et cum suo tempore urinam non fecerint; vel si sudant et a concitatione confestim biberint vel si, cum diu steterint, subito ad cursum extimulata sunt. Lassitudini quies remedio est, ita ut in fauces oleum vel adeps vino mixta infundatur.	Morbos plerumque equi concipiunt aut lassitudine aut aestu aut frigore aut fame aut, cum diu steterint, subito ad cursum fuerint stimulati, aut si suo tempore urinam non fecerint, aut sudantes et a concitatione statim biberint, quibus remedia haec a maioribus profuisse accepimus et facientes nosmetipsi experti sumus.

²⁶ M. Ihm, *Pelagonii Artis Veterinariae quae extant* (Leipzig, 1892), 7 ff.

²⁷ Hoppe, 'Pelagoniusstudien', 38–9.

²⁸ CHG II pp. viii–xi.

²⁹ Varro II.1.23; Col. VI.30.3; Pel. Lat. 4; Eum. M681 = B107.3, CHG I p. 368.

Animals most often catch sickness from weakness and heat, and cold causes the same, and when, being urged along, it does not urinate, or if after sweating it drinks, and after much rest it enters into much running and becomes exhausted. Treat it in this way, pouring oil into the throat or similarly giving fat with wine.

In general, sickness is caused by the fact that the animals are suffering from heat or from cold, or else from excessive work, or, on the other hand, from lack of exercise; or else food and drink has been given to them immediately after working, without a period of rest . . . The following is the treatment in such cases: the animal is washed down with water, and rubbed down with oil and warm wine.

Beasts of burden generally catch sicknesses from fatigue or from the heat, and sometimes also from the cold and when they have not passed urine at the proper time, or if they sweat and then drink immediately after having been in violent motion, or when, after they have stood for a long time, they are suddenly spurred into running. Rest is the cure for fatigue, provided that oil or fat mixed with wine is poured down the throat.

Beasts of burden generally catch sicknesses from fatigue or from the heat, or from cold or hunger, or when, after they have stood for a long time, they are suddenly spurred into running, or when they have not passed urine at the proper time, or sweating and having been in violent motion they drink immediately. We have received these remedies for such things from our elders and have proved them by making them ourselves.

But there are other places in which Pelagonius and Eumelus share material not present in Columella. Hoppe assembled the passages common to both, indicating where Pelagonius contained more or less information than Eumelus,³⁰ and concluded that the resemblance was the result of Pelagonius' use of Eumelus.³¹ More recently, J. N. Adams has reconsidered these passages, and has argued that Eumelus, in addition to using Columella, also used a lost Latin veterinary writer who 'quoted Columella, took information from him, and was influenced by his style'.³² Adams also observes that the lost source was related to Celsus.³³ A key passage is that on glanders, which has no exact equivalent in Columella:³⁴

³⁰ 'Pelagoniusstudien', 28–31.

³¹ Cf. *CHG* II p. XIII.

³² 'Pelagonius, Eumelus, and a Lost Latin Veterinary Writer', *Mémoires du Centre Jean Palerne*, V (1984), 1 and 29.

³³ *Pelagonius*, 4–6 with stemma p. 10.

³⁴ Eum. M29–30, *CHG* II p. 31; Pel. Lat. 204–8. Cf. Adams, 'Pelagonius, Eumelus, and a Lost Latin Veterinary Writer', 20. The Latinisms in this passage were identified by Oder and Hoppe, *CHG* II pp. VIII–IX.

Eumelus

Δύσπνοια ζώοις πάθος ἐπικινδυνότατον,
 τοῦτο πολλοὶ μάλιν ὀνομάζουσιν, ὅπερ
 Ἑλληνές τε καὶ Ῥωμαῖοι διείλον
 οὕτως ἄρθρίτιν, ὑγρὰν ὑγρὰν λευκὴν
 μέλαιναν. τῆς τοιαύτης οὖν νόσου σημεῖα
 τάδε...

Dyspnoia is a disease very dangerous to animals. Many people call it *malis*, and Greeks and Latins divide it thus: arthritic, dry, wet, white, black. The symptoms of this disease are the following...

Pelagonius

Ad suspirium pecoris ait
 Periculosissimum vitium est, malim id
 multi vocant, cuius genera... Graeci ita
 dividunt ἄρθρίτιν, ὑγρὰν, ξηρὰν, λευκὴν,
 μέλαιναν. quae Latini articulare,
 umidam, siccam, albam, nigram appellant.
 signa eius talia sunt...

On suspirium in animals, he said
 It is a most dangerous disease, many people
 call it *malis*... The Greeks divide it thus:
arthritis, hygra, xera, leuke, melaina; which
 the Latins call arthritic, wet, dry, white,
 black. The symptoms of the disease are the
 following...

Pelagonius appears here to be quoting from a Latin writer who used a Greek source. The Latin names given by Pelagonius are not repeated in Eumelus; that words in a different script are vulnerable in transmission is shown by the fact that the Greek words are omitted from this passage in the Einsiedeln MS of Pelagonius.³⁵

Eumelus

Δύσπνοια ἢ ὑπὸ Ἑλλήνων ὀρθόπνοια
 ὀνομαζομένη γνωρίζεται, ὁπνήκα τοὺς
 μυκτῆρας ὀρθοὺς ἔχει πῦά τε δι' αὐτῶν φέρει
 καὶ τὰς λαγόνας ἔλκεται, τοὺς ὀφθαλμοὺς
 ἀφεστῶτας ἔχει...

Dyspnoia, which is called by the Greeks orthopnoia, is recognized when it has upright nostrils and brings forth pus from them and draws in its flanks, and its eyes stand out.

Pelagonius

Item aliter suspirium, quod Graeci orthopnoean vocant. cognoscitur autem cum iumentum nares arrectas habet purulentaque emittit et crebrius ilia attrahit oculosque habet arrectiores...

And another, for suspirium, which the Greeks call orthopnoia. It is recognized when the horse has upright nostrils and brings forth pus, and frequently draws in its flanks, and its eyes are more upright.

Eumelus' reference to 'the Greek term for dyspnoia' is an indication that here he is using a source with, so to speak, a Roman point of view.³⁶ In the first passage, it would seem that *δύσπνοια* has replaced the Latin word

³⁵ The relevant page of the MS is illustrated in Corsetti, 'Un nouveau témoin', 41.

³⁶ As we shall see below, Hierocles uses the similar phrase ἄς καλοῦσιν Ἑλληνες βλεφαρίδας B59.6, CHG I p. 249.

suspirium in Eumelus' text, and that the title of Pelagonius' chapter originally formed part of the text.³⁷ One may note that the missing word is supplied by Apsyrtus' chapter on glanders, which is apparently derived from Eumelus (who is quoted by name), and begins *ἔστι δὲ τὸ πάθος, ὃ καλοῦσιν οἱ πολλοὶ μᾶλιν, τινὲς δὲ κατάρρουν, ῥωμαῖοι δὲ συμπέρριον*.³⁸ Apsyrtus may have had a text of Eumelus with the Latin word in it, or he may have been using the same source as Eumelus and Pelagonius in addition.³⁹ This passage appears in Hierocles, as we shall see, attributed to a certain 'Hieronimus the Libyan', who may be related to Cassius Dionysius of Utica.⁴⁰

The treatments prescribed in this instance by Eumelus, Pelagonius, and Apsyrtus are superstitious in nature, based on sympathy and antipathy: they include application of the animal's own blood and of hellebore-root. Eumelus' instructions for applying the hellebore, which include the phrase (*ἐλλεβόρου ῥίζαν*) *λίθῳ περιορυγείσαν*, 'dug around with a stone', where Pelagonius gives *cute forata*, 'the skin being pierced', are interpreted by Adams as a misunderstanding of the Latin phrase as *caute forata*, 'pierced with a stone'.⁴¹ Once again, though, the information missing from Eumelus, namely the instructions for cutting the skin to insert the hellebore root, is found in Apsyrtus, whether via a more complete text of Eumelus or direct use of the common source.⁴² The same hellebore-cure is prescribed by Columella, but for ulceration of the lung in cows.⁴³ It is also found in book XXIV of Pliny's *Naturalis historia*, in the discussion of hellebore; Celsus and Mago are among the sources Pliny names for that chapter.⁴⁴

The resemblance between Eumelus and Pelagonius continues:⁴⁵

³⁷ The reading of the Florence MS, *pecori*, would furnish an equivalent to *ζώοις*. See Fischer's commentary ad loc.

³⁸ B2.1, *CHG* I p. 13.

³⁹ Björck has suggested that Apsyrtus used a compilation belonging to the agricultural tradition; 'Zum *CHG*', 69.

⁴⁰ M40 = B2.12, *CHG* I p. 19.

⁴¹ Adams, 'Pelagonius, Eumelus', 20–1. But Eumelus' advice is not implausible: Björck, 'Apsyrtus, Julius Africanus', 58–9, commenting on the same passage, refers to the prescription *sine ferro* for the collection of medicinal plants. Moreover, Theophrastus, one of the Greek authors used in Cassius Dionysius' compilation, describes the practice of drawing a circle around the hellebore-plant: *περιγράφειν δὲ καὶ τὸν ἐλλέβορον τὸν μέλανα* (IX.8).

⁴² M52 = B2.5, *CHG* I p. 15.

⁴³ Col. VI. 5.3–4 and VI. 14 See also Fischer, 'The First Latin Treatise on Horse Medicine and its Author, Pelagonius Saloniinus', *Medizinhistorisches Journal*, 16 (1981), 222 ff. for references to the use of hellebore in this fashion in the 19th c.

⁴⁴ *HN* XXIV.41; XXIV.98; sources listed in bk. I.

⁴⁵ Eum. M1096 = B27.5, *CHG* I p. 141; Pel. Lat. 208 = M1099 = B27.6, *CHG* I pp. 141–2.

Eumelus

Τῆς δυσπνοίας τὰ σημεῖα ταῦτα· τὸν δεξιὸν ὀφθαλμὸν ὑπόχλωρον ἔχει, ἐξ ἑκατέρου μυκτῆρος ὁσμήν δυσώδη πέμπει, τὰς λαγόνας ἔλκει, ὑπὸ τὰς γνάθους κορδυλώματα τίκτει. τὸν οὖν περίπατον αὐτοῦ κατανόησον· (καὶ ἐὰν B) εἰς τὸ δεξιὸν μέρος περιρεπέστερος ᾗ, οὐκ εὐχερῶς θεραπεύεται . . .

The signs of dyspnoia are the following: it has a greenish right eye, it emits a foul odour from each nostril, it draws in its flanks, under the jaws it produces swellings. Observe its walking: if it inclines more to the right side, it will not be treated easily.

Pelagonius

Ad suspirium validissimum, de quo etiam et suspendit ilia et oculos vel oculum dextrum coloratum habuerit, nonnunquam etiam maxillam tumidiorem, incessus etiam non rectos . . . considera diligentius: si dextra pars fuerit curvata, sanabitur, si sinistra, difficile obtinebitur.

For *suspirium*, very efficacious, from which it draws in its flanks and its eyes or its right eye is coloured, and often its jaw is swollen, and its movement is not straight . . . observe carefully: if the right side is curved, it can be cured; if the left, it will be overcome with difficulty.

The lemma to this passage of Pelagonius in B is *Μάγωνος*, which led Björck to suggest that Pelagonius and Eumelus are here using a text derived from Mago–Cassius Dionysius–Diophanes.⁴⁶ The resemblance of the lost source, in style and content, to Columella would be explained in this way, since Columella, as we have seen, repeatedly refers to Cassius Dionysius and Mago as his sources.⁴⁷ The similarity of Columella's description of the points of the horse to those of other authors in the Mago tradition shows that he followed the words of his source very closely.⁴⁸ What was his source? Columella's double quotations seem to indicate that he used Mago via Celsus; Celsus is cited by name three times in the chapter on horses and cows.⁴⁹ Pelagonius, too, quotes Celsus by name, once via Columella, and twice independently.⁵⁰ Celsus' work on agriculture formed books I–V of the *Artes*. Assuming that the lost source belongs to the well-known family of Graeco-Roman agricultural manuals descended from Mago may account for its author not being mentioned by Vegetius, who wrote soon after Pelagonius, and states that only Columella and Pelagonius had so far written on horse-medicine in acceptable style.⁵¹ The mixed 'Graeco-Latin'

⁴⁶ 'Zum CHG', 56. Cf. Speranza, fr. 53.

⁴⁷ Cf. M. Wellmann, review of CHG I, *Gnomon*, 2 (1926), 237.

⁴⁸ Oder, *Anecdota Cantabrigiensia*, 14 ff.; Heinze, 'Animadversiones', esp. 435–7.

⁴⁹ Col. VI.5.5, VI.12.5, VI.14.6; other allusions to the *De agricultura* collected in F. Marx, A. Corneli Celsi quae supersunt, (CML I; Leipzig and Berlin, 1915), 5 ff.). Cf. Weiss, *De Columella et Varrone*, 9–17: 'capita Columellae ad pecoris medicinam pertinentia ex Celso pendere, quis est, quin suspicetur?' (p. 9). One may note the phrasing of one of Col.'s quotes from Celsus (VI. 12.5): 'possunt etiam, ut Cornelius Celsus praecepit, lili radix vel scilla cum sale vel sanguinalis herba, quam polygonum Graeci appellant.'

⁵⁰ Pel. Lat. 22.3 via Col.; 185.1; 287 (no parallels in Col.).

⁵¹ Ed. Lommatzsch, bk. 1 prol., pp. 12–13.

language of the source would also be explained in this way: we have already noted the role of translations in the tradition of Mago's text. (Cassius Dionysius' very name reflects a mixed Graeco-Latin cultural background. One wonders whether his translation of Mago might have been made from the Latin rather than the Punic text.) It would also account for the material in common with Anatolius, who used Cassius Dionysius via Diophanes; and for the similarity of Eumelus' text to a passage on heart-disease which appears in Theomnestus attributed to a certain Cassius. Both authors prescribe bloodletting from the legs and silphium administered as a drench with honey and warm water; one may note that whereas Eumelus uses *λάσαρον* (*laser*), the Latin name for the plant, and Cassius/Theomnestus the Greek *σίλφιον*, the amount in each case is described as the size of a bean (*κύαμος*).⁵²

Eumelus

Καρδίας πόνος διαγινώσκεται, ἥνικα ὁ δεξιὸς ὀφθαλμὸς δακρύει καὶ βαρύτερον ἀναπνεῖ, καὶ ἐπὶ τὰ γόνατα πίπτει. τοῦ αὐτοῦ, καθὼς προειρήκαμεν, αἷμα λαμβανέσθω, κριθῶν ἀπεχέσθω, ἐγχυματιζέσθω δὲ διὰ τοῦ ἀριστεροῦ μυκτῆρος οὕτως . . . ἂν δὲ ἐπιμείνη, αἷμα ἀπὸ τῶν σκελῶν λάμβανε, καὶ μετὰ ταῦτα λασάρου ῥίζης ὡς κύαμου μέγεθος, καὶ νίτρου ἴσον, μετὰ μέλιτος δέξυβάφω β', καὶ ὕδατος θερμοῦ κοτύλων δ' καὶ ὄξους κοτύλην α' μίξας δίδου αὐτῷ . . .

Disease of the heart is diagnosed when the right eye tears and it breathes more heavily, and falls onto its knees. From it, as we have said before, let blood be taken, let it be kept away from grain, and let it be drenched through the left nostril in this way . . . If it continues, take blood from the legs, and also mix silphium-root, as much as the size of a bean, and the same amount of natron with 2 oxybapha of honey and 4 cotylae of warm water, and 1 cotyle of vinegar, and give to it.

Cassius

Ἐὰν ἵππῳ ἐπὶ τὴν καρδίαν ρέυμα ἐπιγένηται ἢ ἕτερός τις πόνος, παρακολουθεῖ σπασμός, καὶ πίπτει ἐπὶ γόνατα, πάσχει δὲ τὸ σῶμα καὶ μάλιστα τὴν κεφαλὴν. ἂν οὖν ταῦτα ποιῇ, ἐγχυματίζει σιλφίου ὅσον κύαμον, καὶ μέλιτος γ' ὃ, καὶ νίτρου γ' ὃ, πέμπε εἰς τὸ μέλι ὕδατος ξε. β' καὶ τεθερμασμένον ὄξους ἐπίβαλε καὶ ἐγχυματίσον καὶ περιβάλλων αὐτὸν διακίνει, ἐγχυματιζέσθω δι' ἡμερῶν τριῶν, χόρτῳ δὲ κεχρησθῶ χλωρῷ τῇ ἀγρώστει, καλὸν δὲ μηδικῇ. ἂν δὲ μὴ ὑγιάσῃ, αἷμα ἄφελε αὐτοῦ ἀπὸ τῶν ἐμπροσθίων ποδῶν ἔσωθεν τῶν γονάτων [καὶ B] τῶν ὀπισθίων καὶ ὑγιάσεις. δεδοκίμασται.

If flux, or any other disease, attacks a horse in the heart, a spasm follows, and it falls onto its knees, and the body suffers, especially the head. If it does these things, drench with silphium (as much as a bean), and 4 oz honey, and 3 oz natron, and put into the honey 2 xe. water, and put in warmed vinegar and drench and covering it make it move. And let it be drenched for three days, and let green dog's-tooth grass be used, and lucerne is good. If it does not become healthy, draw blood from it from the forelegs inside the knees, and the hind, and you will make it healthy. It is tested.

⁵² Eumelus M427 = B29.8, *CHG* I p. 149; Cassius M428 = B29.6, *CHG* I p. 148; cf. Björck, 'Zum *CHG*', 56, Speranza fr. 55.

The only other name associated with Eumelus, that of Hieron, also appears in Varro's list of Greek writers on agriculture.⁵³ Another indication that the common source belonged to an agricultural context is a treatment for hooves that are worn, recommended by Columella for oxen injured in ploughing; Eumelus and Pelagonius, who prescribe the cure for horses, both note that the treatment is appropriate for use in cattle as well.⁵⁴

Eumelus

Ἐὰν ὑποτρίψῃ ζῶον, θερμῷ
προσῆκει ὕδατι πυριάζεσθαι,
ὀξυγγία τε ἀπαλείφεσθαι,
καὶ ἐπὶ δστράκου ζέοντος
ἀποτίθεσθαι, μέχρις οὗ
πράως ἐνέγκῃ. λοιπὸν δὲ
μετὰ ταῦτα σκόρδῳ καὶ
θεάφῳ λελειωμένῳ χρῶ,
ἐπικαίων σιδήρῳ ζέοντι ἐπὶ
ἡμέραις τρισί. τοῦτο καὶ
βοῦσι βοηθεῖ καὶ ἀρμόζει
γίνεσθαι.

If an animal suffers from wear (of the hoof), it is correct for it to be fomented with water, and to be anointed with axle-grease, and to be placed on a red-hot potsherd, as long as it bears it calmly, And then after that use crushed garlic and sulphur, firing it with a red-hot iron for three days. And this also cures cows and is suitable to use.

Columella

Si talum aut ungulam
vomere laeserit, picem
duram et axungiam cum
sulpure lana sucida invol-
vito et candente ferro supra
vulnus inurito.

If the hoof or the pastern is injured by the ploughshare, let hard pitch and axle-grease be wrapped around it with sulphur and greasy wool, and let it be burnt with a red-hot iron above the wound.

Pelagonius

Pedes subtritos foveri aqua
calida oportet axungiaque
ungi, dehinc testam can-
dentem ungulis admoveri,
donec impatienter ferat;
allio post et sulphure simul
contrito <...> lamina
candente inuris bis in die
per triduum. id etiam
bubus fieri convenit.

It is right for worn feet to be fomented with hot water and to be anointed with axle-grease, and then for a red-hot potsherd to be applied until it becomes impatient; and then after that garlic crushed together with sulphur <...> fire it with a red-hot iron plate twice a day for three days. This also may be used for cows.

Although Apsyrtus appears to refer to Eumelus' words in his treatment of the same subject (περὶ δὲ τοῦ ἐπικαίειν πολλοῖς ἐῖρηται πολλά, 'many things are said by many people on the subject of firing'), he offers substantially different advice, and therefore cannot be Pelagonius' immediate source.⁵⁵ Indeed, the chapter on lameness in cows in *Geoponica* VII, though not identical, contains recommendations for fomenting the foot and anointing it with fat, as well as references to the use of a potsherd and a hot iron.⁵⁶

⁵³ Varro I.1.8.

⁵⁴ Eum. M666 = B104.6, *CHG* I p. 363; Col. VI.15.1; Pel. Lat. 254.

⁵⁵ Aps. M663 = B104.5, *CHG* I p. 363.

⁵⁶ *Geop.* XVII.1–2.

Given Eumelus' links to the agricultural tradition, it is not surprising there are similarities between his text and that of Anatolius, both in the *Hippiatrica* and in *Geoponica* XVI. There are instances in which the four authors coincide, such as the remedy for nosebleed:⁵⁷

<i>Eumelus</i>	<i>Anatolius</i>	<i>Columella</i>	<i>Pelagonius</i>
Ῥύσιν αἵματος τὴν διὰ ῥινῶν ἴστησι κολιάνδρου χλωροῦ χυλός.	Ἐὰν δὲ διὰ ῥινῶν αἷμα φέρῃ, ἐγχεῖν χρὴ κοριάνου ὀπὸν διυλίσαντες.	Non nunquam etiam per nares profluvium sanguinis periculum adtulit, idque repres- sum est infuso nari- bus viridis coriandri sucō.	<i>Item aliud Columel- lae.</i> si sanguis per nares fluxerit, peri- culum adfert; quod reprimitur infuso naribus viridis coliandri sucō.
The juice of green coriander stops the flow of blood from the nostrils.	If it is bleeding from the nostrils, one ought to pour in strained corian- der juice.	Sometimes bleeding from the nostrils is dangerous, and it is stopped by the juice of green coriander poured into the nos- trils.	If blood flows from the nostrils, it is dangerous; it is stopped by the juice of green coriander poured into the nostrils.

In the case of nausea, there is no equivalent text in Pelagonius.⁵⁸

<i>Eumelus</i>	<i>Columella</i>	<i>Anatolius</i>
Ναυτιασμόν καὶ τὸν περὶ τὰ σιτία πλάδον παύει . . . σκορόδου κεφαλὴν μίαν λειώσας μετὰ οἶνου ἡμίνης μίας διὰ κέρατος δοῦς ἐσθίειν παρασκευάσεις.	Sed et nausea discutitur, si caput alii tritum cum vini hemina saepius potandum praebeas.	Ναυτιῶντας δὲ θεραπεύσεις σκορόδων κοτύλῃ ἁ οἶνου μίξας καὶ διδοῦς.
Nausea and wateriness about the food is stop- ped . . . by crushing one head of garlic with a <i>hemina</i> of wine and administering it through a horn, you will make it ready to eat.	Nausea can also be stopped by frequently giving a bruised head of garlic in a <i>hemina</i> of wine to drink.	You will cure those with nausea by mixing garlic with one <i>cotyle</i> of wine and administering it.

Even in these short passages, small details—the word green, the measure of wine to be administered—link Eumelus with the Latin writers. The resemblance is seen in longer passages too, as is the case in treatments for thinness.⁵⁹

⁵⁷ Eum. M443, *CHG* II p. 63; Anat. M3 = B1.23, *CHG* I p. 10 = *Geop.* XVI.4.5; Col. VI.33.2; Pel. Lat. 307.

⁵⁸ Eum. M1072 = B130.136, *CHG* I p. 426; Col. VI.34.1; Anat. M1066, *CHG* II p. 104, cf. *Geop.* XVI.3.5.

⁵⁹ Eum. M88 = B68.4, *CHG* I p. 265; Col. VI.30.1; Anat. M1066, *CHG* II p. 103 = *Geop.* XVI.3.

Eumelus

Ἐὰν δίχα τινὸς ἀνωμαλίας
ἰσχνῶσις γένηται ζώοις,
σίτῳ καὶ κριθαῖς
πεφρυγμέναις ἀναλήφονται.
πολλάκις δὲ καὶ οἶνος ἐν τῷ
παρ' αὐτῶν πινομένῳ ὕδατι
μιγνύσθω, μέχρις οὖν τὴν
κατὰ φύσιν ἀναλάβωσι
ῥώσιν. τὰ δὲ τῶν τοιούτων
σώματα πολλῆς τῆς τρίψεως
δέονται πρὸς τὸ διὰ τῆς
τοιαύτης μαλάξεως πλείονα
τῆς τροφῆς αὐτῶν λαμβάνειν
ὄρεξιν.

If thinness without any
indisposition occurs in
animals, they may be re-
vived with wheat and
toasted barley. And let wine
be mixed often in their
drinking-water, until they
regain their natural state of
health.

Their bodies require much
rubbing-down, so that
through such massage they
gain more appetite for their
feed.

Columella

Si sanis est macies, celerius
torrefacto tritico quam hor-
deo reficitur, sed et vini
potio danda est, ac deinde
paulatim eius modo cibi
subtrahendi inmixtis hor-
deo et furfuribus . . . nec
minus cotidie corpora
pecudum quam hominum
defricanda sunt: ac saepe
plus prodest pressa manu
subegisse terga equi, quam
si largissime cibos praebeas.

If a horse is healthy but thin,
it can be restored more
quickly with roasted wheat
than with barley; but it must
also be given wine to drink
and then by degrees foods
of this kind must be reduced
by mixing bran with the
barley . . .

The bodies of animals
require a daily rubbing
down just as much as those
of human beings, and often
to massage a horse's back
with the pressure of a hand
does more good than if you
were to provide it most
generously with feed.

Anatolius

Περὶ ἰάσεως διαφορῶν
νοσημάτων.

Ἐὰν ἀπισχνούται ἵππος,
σιτοῦ φρυγέντος καὶ κριθῶν
ὠπτημένων διπλάσιον
παραβλητέον αὐτῷ, τρεῖς δὲ
τῆς ἡμέρας ποτιστέον. εἰ δὲ
ἐπιμένει ἰσχνούμενος
πιτύρων τῷ σίτῳ μικτέον καὶ
ἡρεμίοις γυμνασίοις
χρηστέον

If the horse becomes very
thin, roasted wheat and a
double quantity of toasted
barley ought to be given to
it, and it ought to be
watered three times a day. If
it continues to be thin, one
ought to mix bran with its
grain, and use gentle exercise.

In one instance, though, a passage on diarrhoea in *Geoponica* XVI provides a closer parallel to Eumelus than do Columella or Pelagonius.⁶⁰ This led Oder and Hoppe to suggest that Eumelus was used by Anatolius.⁶¹

⁶⁰ Eum. M621, *CHG* II p. 77, also attributed to Eum. in C22.2, *CHG* II p. 159; Anat. in *Geop.* XVI.8; present in the Syriac, XIII.37.

⁶¹ *CHG* II p. ix.

Eumelus

Ἐὰν κοιλία ῥέῃ, αἷμα διὰ τῶν ἐν τῇ κεφαλῇ
φλεβῶν ἀφαιρείσθω. πινέτω δὲ χλιαρὸν
ὔδωρ μετὰ κριθίνων ἀλεύρων. ἐπέχει δὲ
κοιλίαν ῥέουσιν καὶ σίδια ῥοὰς κοπέντα καὶ
διὰ τοῦ στόματος ἐμβληθέντα.

If the stomach is flowing, let blood be taken
from the veins of the head. Let it drink
warm water with barley flour. And pome-
granate fruits, cut up and injected through
the mouth, also stay the stomach when it is
flowing.

Anatolius (Geoponica)

Ἐὰν ἡ κοιλία ῥέῃ, αἷμα διὰ τῶν ἐν τῇ κεφαλῇ
φλεβῶν ἀφαιρείσθω. πινέτω δὲ καὶ χλιαρὸν
ὔδωρ μετὰ κριθίνων ἀλευρῶν κυκθέν. εἰ δὲ
μὴ ραῖζοι, διὰ τῶν ῥινῶν ἔλαιον ἐγχείσθω.
ἐπέχει δὲ κοιλίαν ῥέουσιν καὶ σίδια ῥοὰς,
καὶ ῥοὺς Συριακοὺς ὁμοῦ κοπέντα, καὶ διὰ
στόματος δοθέντα.

If the stomach is flowing, let blood be taken
from the veins of the head. Let it drink
warm water mixed together with barley
flour. If it does not improve, let oil be
poured through the nostrils. And pome-
granate fruits, and sumac cut up together
and given through the mouth, also stay the
stomach when it is flowing.

It is perhaps more likely that Eumelus and Anatolius used similar sources. Indeed, a remedy for cough in the third-century *Kestoi* of Julius Africanus—one of Anatolius' sources—appears to be related to Columella and Eumelus:⁶²

Eumelus

Τὴν νεαρὰν βῆχα
ἰᾶται φακῆς
ἀηλεσιμένης καὶ
ἀπολετισμένης
ἄλευρον, ἢ πίσσου
[πίσου] ὁμοίως
ἡλεσιμένον καὶ
κεκαθαρμένον
ἄλευρον μετὰ
ὔδατος ξέστου ἂν διὰ
κέρματος διδόμενον.
τὰ μέντοι νοσοῦντα
ζῶα ἢ χλόῃ ἢ
δένδρων ἀπαλὸν
ἀκρεμῶσι τρεφέσθω
μέχρι τῆς κατὰ
φύσιν ὑγιείας.

Columella (horses)

Recens tussis celeriter
sanatur pinsita lente
et a valvulis separata
minuteque molitae.
Quae cum ita facta
sunt, sextarius aquae
calidae in eandem
mensuram lentis
miscetur, et faucibus
infunditur... ac
viridibus herbis
cacuminibusque
arborum recreatur
aegrotum pecus.
Vetus autem tussis
discutitur porri suco
trium cyathorum
cum olei hemina...

Julius Africanus

Ἰππῶ βήσσουντι
θεραπεία φακὸς
ἐπιτισμένος, ἢν δίχα
τῶν ἐλύτρων ἄκρωσ
ἀλέσας ἢ λειώσας
ἄμα ὕδατι ποτίσης.
μέτρον δὲ τοῦ
ὀσπρίου ζώῳ παντὶ
καθ' αὐτὸ ξέστου
τέταρτον ἂν εἶη
σύμμετρον.

Anatolius

Ἀρχόμενῳ βήττειν
ἄλευρα κρίθινα,
ὀρόβων ἢ κνύμων
μιχθέντων, διδόνα
χρὴ πιεῖν...

ἐπιτεινούσης δὲ τῆς
βηχὸς... οἱ δὲ
πράσου ὀπὸν καὶ
ἔλαιον

⁶² Eum. M470 = B22.7, *CHG* I p. 105 and M471, *CHG* II p. 67; Col. VI.10.1–2 and 31.1; Julius Africanus I.12, Vieillefond, pp. 147–9; Anat. M469 = B22.19, *CHG* I p. 109; and *Geop.* 17.21; cf. Pel. Lat. 108.

Flour of lentils, ground without their husks, heals a new cough, or flour of pea, similarly ground and cleaned, administered though a horn with 1 xestes of water. Let the ailing animals be fed either green grass or the tender tips of trees until a natural state of health [is restored].

A cough which has just begun is quickly cured with crushed lentils separated from the husks and pounded into minute fragments. When this has been done, a sextarius of hot water is mixed with the same quantity of lentils and poured down the animal's throat; ... and the sick animal is strengthened by a diet of green grass and tree-tops. A cough of long standing can be dispelled by pouring down the throat on several days three cyathi of leek-juice in a hemina of oil...

The treatment for a horse with cough is pounded lentil, which you grind or pound fine without the husk, and administer as a drink with water. Let the amount of the pulse for every animal be the same in measure as a fourth of a xestes.

To one who has begun to cough, it is necessary to give to drink barley flour mixed with vetch-seeds or beans...

if the cough continues... some [give] leek-juice and oil, and the root of wild rue.

We see that Eumelus, Columella, and Anatolius both begin by describing the cough as 'new', Africanus and Columella agree in describing the pulses as finely ground, and leek and oil is recommended by Columella and Anatolius. Africanus used at least one agricultural manual, that of the Quintilii—could it have been his source in this case?

A number of peculiarities of language assembled by Oder, Hoppe, and Adams indicate that Eumelus is following a Latin text. The matter is complicated by the fact that both the texts of Eumelus and Pelagonius are written in a mixed language, and that both survive in a mangled state; that the Teubner edition of the *Hippiatrica* presents the rewritten text of the B recension can also be misleading.⁶³ We have seen that both 'the Greeks' and 'the Romans' are quoted in the glanders passage, and that Pelagonius cites the Greek medical terms in Greek script. The use of Greek words is conventional in

⁶³ Some phrases identified by Adams as differences between Eumelus and Pelagonius are in fact the result of rewriting in B: the text of M preserves a reading equivalent to Pelagonius' Latin. M127, apparatus to B52.8, *CHG* I p. 232; M128, apparatus to B52.9, *CHG* I p. 233 = Pel.194; cf. 'Pelagonius, Eumelus', 13 and 17.

Latin medical texts; the use of Latin words conventional in Late Antique Greek, especially in low-style and technical texts. Latin words present in the glanders passage, *φάβα* and *φοῦρνος*, are everyday loanwords commonly used in Late Antique Greek; *παστίλλους*, a medical term, falls into the same category: they do not offer conclusive proof that the source of the passage was in Latin.⁶⁴ Elsewhere, Eumelus uses other loanwords such as *στάβλον* (*stabulum*, stable),⁶⁵ and *σπέκλον* (*speculum*, mica or talc).⁶⁶ Another sort of borrowing is seen in the excerpt on strangles, where Eumelus uses the Latin term for the disease, *glandula* ‘little acorns’ transliterated into Greek (*γλάνδουλα*), with an explanation that it is a vulgar or laymen’s term:

παρωτίδας ἢ χοιράδας, ἅπερ τινὲς ἰδιώτερον γλάνδουρα (*sic*) προσαγορεύουσιν... τὰ λεγόμενα γλάνδουλα.⁶⁷

strangles or scrofulous swellings in the glands of the neck, which some call by the common name *glandoura*... the so-called *glandoula*.

Greek might have been, as Pliny says, the language of medicine par excellence,⁶⁸ but pragmatism dictated that Late Antique medical writers use, or at least be familiar with, Latin terminology: thus Dioscorides gives Latin synonyms for plant names transliterated into Greek,⁶⁹ and tables showing the equivalence of Greek and Latin weights and measures were compiled.⁷⁰ Where Eumelus prescribes a plant called *σατύριον* for a wound, Oder, noting that in a parallel passage of Pelagonius *satureia*—which in Greek is *θύμβρα*, thyme—is prescribed, suggested that Eumelus’ text originally had the Latin plant-name in transliteration, *σατουρέϊα*, as it appears in the lists of synonyms attached to Dioscorides.⁷¹ However, Adams identifies in Eumelus’ use of *σατύριον* simply a careless rendering of *satureia* using a similar word, one which in Greek denotes, however, a different type of plant, one used as an aphrodisiac.⁷² An instance, identified by Oder, in which Eumelus’ phrasing may be explained by

⁶⁴ *Φάβα*, *φοῦρνος* M29, CHG II p. 32; *πάστιλλος* M30, CHG II p. 33, M1081 = B130.143, CHG I p. 427; cf. Viscidi, *I prestiti latini nel greco antico e bizantino*. The same loanwords are used in the Latin translation of Pelagonius.

⁶⁵ *στάβλον* M427 = B29.8, CHG I p. 149; M968, CHG I p. 418, apparatus; *σταβλίζω* M88, CHG I p. 265 apparatus.

⁶⁶ *σπέκλον* M1089 = B130.150, CHG I p. 429.

⁶⁷ M107, altered to *γλανδούλας* in B16.4, CHG I p. 90.

⁶⁸ NH XXIX.17.

⁶⁹ Long lists of synonyms in other languages were added to his text later. See Wellmann, ‘Die Pflanzennamen bei Dioskurides’, 360–422.

⁷⁰ See the various examples of these appended to the *Hippiatrica*, CHG I pp. 440–6.

⁷¹ M250, CHG II p. 50 and apparatus; Pel. Lat. 313; cf. Diosc. ed. Wellmann III.37 *θύμβρα*... *Ῥωμαῖοι σατουρέϊαμ*.

⁷² ‘Pelagonius, Eumelus’, 21. On words which sound the same, but have different meanings in different languages, see Biville, ‘The Graeco-Romans and Graeco-Latin’, 99–100.

use of a Latin source is the phrase τὰ ὦτα συνεχῶς ὥσπερ λαγχάνων κινεῖ, 'it constantly moves its ears as though drawing lots', where Pelagonius has *auriculis micat*, 'it flicks its ears'. In the Graeco-Latin glossaries, λαγχάνω is defined as *mico*, and *micat* as λαγχάνει, λάμπει.⁷³ Adams describes Eumelus' words as 'blatant translationese'.⁷⁴ In a passage on fistula, Adams identifies Eumelus' phrasing ἐκ βάθους as a failure to translate *decusatim*, a rare word in Latin.⁷⁵ *Decusatim* itself is of course the equivalent of χιαστῶς, 'X-shaped', a term conventionally used in Greek in medical and technical texts.⁷⁶

Eumelus' apparent use of a source in Latin is worthy of note, since it implies that in veterinary medicine, unlike in human medicine, the influence of Latin texts on Greek writers was as important as the reverse.⁷⁷ If we were better informed about Eumelus' birthplace, and the circumstances in which his treatise was composed, we could perhaps explain his possible bilingualism, his access to copies of Latin texts, and his reasons for translating them, if indeed he was the one who did so. It is also interesting that a Latin technical treatise whose author refers clearly to Greek sources should have been translated into Greek; the same, of course, occurred somewhat later in the case of Pelagonius. If Eumelus' source was indeed the agricultural section of Celsus' encyclopaedia, it is noteworthy too that Celsus' Greek sources were also in circulation: Diophanes was used by Anatolius around the fourth century AD, and Cassius Dionysius seems have been used by Theomnestus at the same time. Apsyrtus, too, seems to have used, in addition to Eumelus' own work, a related and fuller agricultural text: its identification is made easier by the fact that he quotes Mago by name.

It is evident that Eumelus did not alter his source very much, or have much concern for stylistic change or scientific improvement. He seems to have transcribed this source uncritically. One might see a shade of criticism in the phrase 'some people think such animals [coughing because of a ruptured lung] have swallowed bones' (τὰ τοιαῦτα οὖν ζῷα τινες ὁστέα καταπεπωκέναι νομίζουσι),⁷⁸ but what we have seen of Eumelus' *modus operandi* would suggest that the criticism was already present in his source. And indeed, his text also contains a prescription for a drench of cress-seed in wine and oil for the swallowing of a bone (πρὸς ὁστέου κατάποσιν). The *Geoponica* advises that

⁷³ M309, altered in B101.6, *CHG* I p. 349. *CHG* II p. 1x; see Goetz and Gunderman (eds.), *Glossae latinograecae et graecolatinae*, pp. 129 and 357.

⁷⁴ 'Pelagonius, Eumelus', 19–20.

⁷⁵ Ibid. 17; Eum. M1088 = B130.149, *CHG* I p. 429.

⁷⁶ See Politian's essay on the two words, *Miscellaneorum Centuria Secunda*, ed. V. Branca and M. Pastore Stocchi (Florence, 1972), ch. 42, pp. 65–7.

⁷⁷ As noted by Fischer, 'Probleme der Textgestaltung', 256–7.

⁷⁸ Eum. M536, *CHG* I p. 44.

‘a cow will not swallow a bone, if you hang the tail of a wolf on the manger’ (οὐκ ἄν καταπίη βοῦς ὁστούν, εἰ λύκου οὐρὰν ἐπὶ τὴν φάτνην κρεμάσεις).⁷⁹

Even the syntax of the source appears to be unchanged: Adams has remarked that passages in Pelagonius which correspond to Eumelus are characterized by use of the passive imperative and the verb *levigo*;⁸⁰ the passive imperative and the verb *λείω* are also frequently used by Eumelus himself. The structure of Eumelus’ text is simple: symptoms, *σημεῖα*,⁸¹ are listed, followed by remedies, usually called *βοηθήματα*.⁸² The sick animal is often described using *κάμνω*: *σῶζεις οὕτως τὸ κάμνον*.⁸³ Occasionally the aetiology is given: *τοῦτο τοίνυν συμβαίνει, ὀπνήκα*⁸⁴ But symptoms and aetiology are often omitted, and only the treatment presented.

Instructions for treatment are usually introduced by the phrase *θεράπευε οὖν οὕτως*,⁸⁵ or *δεῖ* or *χρή* + infinitive, but also using the third-person passive imperative.⁸⁶ Remedies are often described as being helpful:⁸⁷ *τὸ δὲ αὐτὸ βοήθημα καὶ πρὸς φλεγμονὰς προσαγόμενον ὠφελεῖ*.⁸⁸ Elements of low style in Eumelus’ writing include use of the word *κονδός*;⁸⁹ *ὑπάρχω* for ‘to be’: *ἀθεράπευτον ὑπάρχει τὸ νόσημα*;⁹⁰ and *βασανίζω* in the sense of ‘to vex’: *βασανίζεται συνεχῶς τὸ ζῶον*.⁹¹ The verb *προσάγω* is usually used for ‘administer’.⁹² Eumelus rarely uses two technical medical terms which occur frequently in the other veterinary writers, namely the verb for bloodletting, *φλεβοτομεῖν*, and that for administering a drench or potion, *ἐγχυματίζειν*; but prefers instead the phrases *αἷμα λάμβανε* or *αἷμα ἀφαίρει*,⁹³ for the former and *διὰ τῶν μυκτῆρων ἔγχει* or

⁷⁹ Eum. M1025, *CHG* II p. 97; cf. Aps. M460, *CHG* II p. 65; Theomn. M537 = B7.8, *CHG* I p. 47, also Mul. Chir. 974; Adams, *Pelagonius*, 24. *Geop.* XVII.13.2; cf. Tiberius, L99.9, *CHG* II p. 270. A spell for humans choking on bones cited by Galen; Heim, p. 515.

⁸⁰ ‘Pelagonius, Eumelus’, 7–15.

⁸¹ *τῶν πνευμονικῶν σημεῖα τάδε* M535 = B5.3, *CHG* I p. 41; *τῆς ὑγρᾶς χολῆς σημεῖα ταῦτα, τῶν χολερικῶν σημεῖα ταῦτα* M640–1 = B75.11 and 12, *CHG* I p. 291.

⁸² M117 = B18.3, *CHG* I p. 93; M248, *CHG* II p. 49; M580 = B66.7, *CHG* I p. 261; M581 = B66.8, *CHG* I p. 261; M1085 = B130.146, *CHG* I p. 428.

⁸³ M318, *CHG* II p. 55; M1079 = B130.141, *CHG* I p. 427.

⁸⁴ M29, *CHG* II pp. 31–2; M536 = B6.4, *CHG* I p. 44; M578 = B31.7, *CHG* I p. 159; M639 = B75.10, *CHG* I pp. 290–1; M1081, *CHG* I p. 427 apparatus.

⁸⁵ M988 = B30.5, *CHG* I pp. 151–2; M681 = B107.3, *CHG* I p. 368.

⁸⁶ M550 = B40.3, *CHG* I p. 207; M581 = B66.8, *CHG* I p. 261; M631, *CHG* II p. 79; M427 = B29.8, *CHG* I p. 149; M640–1 = B75.12, *CHG* I p. 291; M1094, *CHG* II pp. 107–8.

⁸⁷ M88 = B68.4, *CHG* I p. 265; M107 = B16.4, *CHG* I p. 90; M117 = B18.3, *CHG* I p. 93; M535 = B5.3, *CHG* I p. 41; M581 = B66.8, *CHG* I p. 261; *ἔστι δὲ πάνν χρησιμώτατον* M1027, *CHG* II p. 99.

⁸⁸ M117 = B18.3, *CHG* I p. 93.

⁸⁹ *κονδοτέροις* M988, *CHG* I p. 151.

⁹⁰ M30, *CHG* II p. 33. ⁹¹ M578 = B31.7, *CHG* I p. 159.

⁹² M364 = B11.8, *CHG* I p. 64; M535 = B5.3, *CHG* I p. 41.

⁹³ M30, *CHG* II p. 33, M641 = B75.12, *CHG* I p. 291.

ἐμβαλε, εἰς τὸν λαιμὸν ἐμβάλλουσιν.⁹⁴ Worthy of note is a use of *προποτίζω* for 'to drench'; the word only occurs elsewhere in the *Hippiatrica* in the Greek translation of Pelagonius.⁹⁵ *Ἐγχυματίζειν* occurs in the treatment for heart trouble similar to the one Theomnestus quotes from Cassius.⁹⁶

Conspicuous is the absence from Eumelus' text of the hippological material which is a characteristic feature of the other texts which belong to the agricultural tradition. Likewise absent are instructions for breeding or for care of the foal, although there are two treatments relating to parturition.⁹⁷ Of course, such material may simply have been lost along with (possibly) the introduction of the treatise. In certain cases where recipes are given alone, we may suspect that a description of symptoms has been lost: for example, the excerpt from Eumelus on horses poisoned by consuming bird droppings consists only of a remedy, with no introductory description of the condition.⁹⁸ Once again, in this instance, Apsyrthus' wording is close to Columella's, and seems to indicate either that Eumelus' text was originally fuller, or that Apsyrthus is using Eumelus' source.⁹⁹

<i>Anatolius in Geop. XVII (cows)</i>		<i>Apsyrthus</i>	<i>Eumelus</i>
<i>Columella</i>	<i>Τὰς φάτναις μήτε ὄρνεις μήτε ὕες προσιέτωσαν· ἐκατέρων γὰρ ἡ κόπρος εἰ βρωθείη, ἀδικεῖ τὸ ζῶον.</i>	<i>Συμβαίνει τὰς ὀρνίθας ἐν ταῖς φάτναις ἐντίκτειν καὶ ἀφοδεύειν ὑγρόν. τοῦτο ἐὰν προσλάβῃ ὁ ἵππος τρῶγων τὸ ἀφόδευμα καὶ καταφάγῃ, ὀχλεῖται καὶ κινδυνεύει . . . κόπρον τὴν ὀρνιθίαν λευκὴν καὶ στέατος ὀλκὴν μίαν τρίψαντα, μῖξαι ἀλφίτοις χοίνιξι M,</i>	<i>Παλαιότεραν κόπρον ὀρνιθος λαβὼν ὡς γο. α', μετὰ τηλίνου</i>

⁹⁴ M248, CHG II p. 49; M471, CHG II p. 67, M638 = B75.9, CHG I p. 290, διὰ στόματος, διὰ τοῦ δεξιοῦ μυκτῆρος ἐγχέουσιν M30, CHG II p. 32.

⁹⁵ M536 = B6.4, CHG I p. 44.

⁹⁶ M427 = B29.8, CHG I p. 149, also M581 = B66.8, CHG I p. 262.

⁹⁷ πρὸς εὐτοκίαν, πρὸς τὸ ἐκβαλεῖν τὰ δευτερεῖα τῆς φοράδος, M1036 and 1037 = B15.5–6, CHG I p. 87.

⁹⁸ M743 = B89.4, CHG I p. 321.

⁹⁹ Geop. XVII.13.1: Aps. M709 = B89.1, CHG I p. 319; Col. VI.5.1.

(δυσί B), καὶ οἶνον
φυράσαντα διδόναι
...
ἀλεύρον λύσας καὶ
προσμίξας φοίνικας
β' καὶ οἶνον καλόν,
διὰ στόματος δίδου
...

Columella

Care must also be taken lest any pig or chicken creep into the mangers. For their droppings, mixed in with the feed, bring death to cattle. A diseased sow may cause plague.

Anatolius

Let neither chickens nor pigs come near the mangers, for if the dung of either is eaten, the animal is harmed.

Apsyrtus

It happens that chickens roost in the mangers and excrete a liquid. If the horse ingests this excrement while feeding and swallows it, it is afflicted and endangered. Pounding chicken dung and an olke of fat, mix with 3 (2 B) choinices of barley-groats, and mixing up with wine administer.

Eumelus

Taking older chicken dung, as much as 1 oz., dilute with flour of fenugreek and mix in 2 dates (*phoinikes*) and good wine, administer through the mouth.

Comparison with Pelagonius shows that Eumelus consistently adapted his source in one way: whenever a chicken or a puppy is called for in Pelagonius' recipe for broth, Eumelus' version only calls for a chicken.¹⁰⁰ (Apsyrtus, too, calls for both chickens and puppies.) Perhaps Eumelus was fond of dogs, or considered their consumption taboo.

Although, as we have said, aetiology does not feature prominently in what is preserved of Eumelus' text, particular attention devoted to bile reflects a theory of humours.¹⁰¹ Dry bile is caused when bile fills up the area around the heart (ἡνίκα τὰ περὶ τὴν καρδίαν χολῆς εἴη πεπληρωμένα). Cholera (χωλέρα, 'biliousness') is to be treated with bloodletting from the neck: the vein should be opened with a lancet, and if the blood is livid and in a bad state it should be allowed to run out until it flows clean (σμιλίω ἢ φλέψ ἐπανοιγέσθω, καὶ εἰ μοχρόν καὶ πελιδνὸν εἴη τὸ αἷμα, μέχρι καθαροῦ αἵματος ῥεύσεως ἀπορεῖν συγχώρει). Similarly, he explains that ailments of the windpipe are caused by bile obstructing the passage of the blood (τῶν τοιούτων νοσημάτων χολῆς αἰτιότης ἐμποδιζούσης τὴν αἱματικὴν ἀρόδοον); this passage is not present in

¹⁰⁰ As noted by Adams, 'Pelagonius, Eumelus', 16, 19.

¹⁰¹ M638 = B75.9, CHG I p. 289; cf. Col. VI.30.8; M639 = B75.10; M640 = B75.11; M641 = B75.12, CHG I pp. 290–1.

Columella or Pelagonius.¹⁰² Eumelus' remedies, for the most part, call for *materia medica* native to the Mediterranean; however, a drench for pneumonia includes nard, saffron, myrrh, sweet rush, cassia, and white pepper: a more sophisticated dispensary than that of Columella.¹⁰³

'TRADITIONAL' AND SUPERSTITIOUS TREATMENTS

There are a number of superstitious or symbolic elements in Eumelus' text; these reappear in other authors, whether via Eumelus or Apsyrus or Eumelus' source. One of these is the use of sympathetic treatments: application of the animal's own blood or faeces. Blood let from the legs and mixed with frankincense is to be rubbed into bruised shoulders against the direction of growth of the hair (*ἀνὰ τρίχα*); the bleeding of the wounds is to be stopped with dung. For those with breathing trouble (*ὀρθόπνοια*), blood is to be let from the back, chest, or shoulders, and applied in the same way.¹⁰⁴

Recurring throughout Eumelus' text is the recommendation that medicines be administered through the left nostril, *διὰ τοῦ ἀριστεροῦ μυκτῆρος* (eleven occurrences in the *Hippiatrica*), or, less frequently, the right one.¹⁰⁵ Less precision is found in Pelagonius, who mentions the left nostril six times and the right four times.¹⁰⁶ The left side was conventionally held to be weaker than the right, and (according to Aristotle) colder.¹⁰⁷ Columella's prescriptions are not specific in this respect apart from a single instance.¹⁰⁸ Julius Africanus, too, recommends administering a drug through the left nostril, *κατὰ τῆς ἐδωνύμου ρίνος*.¹⁰⁹

¹⁰² M1094, *CHG* II p. 108.

¹⁰³ M535 = B5.3, *CHG* I p. 41; cf. also M536 = B6.4, *CHG* I p. 44.

¹⁰⁴ M309 = B101.6, *CHG* I p. 349; M535 = B5.3, *CHG* I p. 41; M1071, *CHG* II p. 106; cf. Col. VI.30.6 and Pliny, *NH* XXVIII.147, 217, 242. M1094, *CHG* II p. 108.

¹⁰⁵ Left: M248, *CHG* II p. 49; M427 = B29.8, *CHG* I p. 149; M442 = B54.8, *CHG* I p. 242; M535 = B5.3, *CHG* I p. 41; M577 = B31.6, *CHG* I pp. 158; M579 = B66.6, *CHG* I p. 261; M639 = B75.10, *CHG* I pp. 290–1; M640 = B75.11, *CHG* I p. 291; M733 = B41.3, *CHG* I p. 209; M1027, *CHG* II p. 99; M1094, *CHG* II pp. 107–8. Right: M29, *CHG* II p. 32.

¹⁰⁶ Pel. Lat. 204.4 = Eum. M29, *CHG* II p. 32.

¹⁰⁷ See G. E. R. Lloyd, *Polarity and Analogy: Two Types of Argumentation in Early Greek Thought* (Cambridge, 1966), 50 ff.

¹⁰⁸ The left nostril is mentioned only at VI.38.2, a passage we shall return to in our discussion of Apsyrus. Col. does, in the section on breeding, mention the conventional association of left with female and right with male: VI.24.3 and (quoting Democritus) VI.28; cf. Varro II.5.13, where Aristotle is cited. On this association in Aristotle and Soranos, see G. E. R. Lloyd, *Science, Folklore, and Ideology: Studies in the Life Sciences in Ancient Greece* (Cambridge, 1983; repr. London, 1999), 34 ff. and 175 ff.

¹⁰⁹ *Kestoi* I.12, ed. Vieillefond, p. 147.

Fasting and spitting, often called for as part of a magical ritual, are specified in a cure for scars in the eyes:¹¹⁰

Eumelus

Νῆστις ἄλας μασησάμενος
καὶ προσπύων
ἀπολεπτύνει· ἢ σηπίας
ὄστρακον μίξας (ξύσας B)
χρῶ. ἢ ἀγριοσταφυλίνου
σπέρμα κεκομμένον ...

By fasting, chewing salt, and spitting it at them you will diminish them. Or grinding a cuttlebone, use it. Or the seed of wild grapes, cut up ...

Columella

Cicatrices oculorum ieiuna
saliva et sale defricatae
extenuantur vel cum fossili
sale trita sepiae testa vel
semine agrestis pastinacae
pinsito ...

Scars of the eyes are diminished by being rubbed with fasting saliva and salt or rock salt pounded with cuttlebone or with the crushed seed of wild parsnip ...

Pelagonius

Cicatrices oculorum ieiuna
saliva et sale defricatae
extenuantur vel cum sale
trita sepiae testa vel semine
agrestis sinapis pinsito ...

Scars in the eyes are diminished by being rubbed with fasting saliva and salt or with ground salt and cuttlebone or the ground seed of wild mustard ...

Two superstitious remedies included by Eumelus are not found in Pelagonius, Columella, or Anatolius:¹¹¹

πρὸς δοθιῆνας· ἐὰν δοθιῆνας ἔχῃ ἵππος, πρὸ [τὸ] τοῦ πυοτροφῆσαι τοῖς τρισὶ δακτύλοις
κρατῶν εἰπέ· ἐργάζομαι σε.¹¹²

For boils. If the horse should have boils, before they fill with pus, seizing them with three fingers, say, 'I defeat you!'

The other magical cure, specifically identified as a *φυσικὸν*, is an amulet against cough added to the list of remedies shared with Columella:

ἔστι δὲ καὶ φυσικὸν δόκιμον, ἐὰν λάπαθον ἄγριον ἐν ἀκέραιον μετὰ τῶν φύλλων καὶ τῶν
ρίζων εἰς ῥάκος ἐνδήςας τῷ τραχήλῳ περιάψῃς. τούτῳ χρῶ ὡς δοκίμῳ.¹¹³

And it is a tried-and-true amulet, if you affix to the neck one complete wild dock plant with its leaves and its roots, having tied it up in a rag. Use this, for it is tried-and-true.

¹¹⁰ Eum. M363 = B11.35, *CHG* I pp. 68–9; Pel. Lat. 437 = M422, *CHG* II p. 62, Col. VI.33.1 see the discussion of fasting in magic by Adams, *Pelagonius*, 20–2, 29–30, where this passage is mentioned.

¹¹¹ Pelagonius' text contains many more spells. Columella, though he recommends the use of hellebore, as we have seen, and a shrew-mouse amulet (VI.17.6), had an aversion to some types of magic, and warned that soothsayers ought not to be allowed on the farm. (I.8.6).

¹¹² M1093, *CHG* II p. 107 (Heim 44). Cf. Björck, 'Apsyrus, Julius Africanus', 57. The verb *ἐργάζομαι* should here be understood in a negative or aggressive sense: cf. Sophocles, 'to beat'; *LBG* 'to arrest'; also *κατεργάζομαι*. See Björck, 'Apsyrus', 59.

¹¹³ M470, *CHG* II p. 67.

The amuletic use of dock against scrofulous swellings in the glands of the neck is described by Dioscorides:

καὶ ἐνδέσματι δέ τινες χρώνται ταῖς ῥίζαις πρὸς χοιράδας, περιάπτοντες τῷ τραχήλῳ.¹¹⁴

And some use the roots as an amulet for scrofulous swellings, affixing them as an amulet to the neck.

It is also prescribed in the *Geoponica*, though for a different ailment:

τοῦ ἀγρίου λαπάθου ὁ καρπὸς καρδίαν καὶ δυσεντερίαν ἰᾶται, μετὰ οἴνου πινόμενος. περιεπιτόμενος δὲ τῷ ἀριστερῷ βραχίονι, γυναικὸς ἀτοκίας ἰᾶται.¹¹⁵

The fruit of wild dock, drunk with wine, heals the heart and dysentery. It heals a woman's barrenness when affixed as an amulet to the left wrist.

Eumelus' magic is very simple, belonging in the category of 'old wives' tales'. We shall see that other authors use a more sophisticated magic.

¹¹⁴ Diosc. II.114.

¹¹⁵ Geop. XII.38.

Apsyrtus

It is no accident that Apsyrtus' treatise was chosen to be the foundation of the *Hippiatrica*.¹ Not only is it the most extensive work on horse-medicine in Greek, but its relation both to earlier and to later writers makes his treatise the axis, so to speak, through which nearly all surviving Greek and Latin veterinary texts are linked. Although its content is based upon written agricultural and medical tradition, Apsyrtus interacts with those traditions, citing his predecessors with criticism or with praise, and adding discoveries of his own. His treatise, probably composed in the late third or early fourth century, was adopted without delay as the new classic, as we may see from the evidence of other veterinary manuals in the *Hippiatrica*, which not only make use of its content, but also imitate its literary form.

APSYRTUS' TEXT

Apsyrtus contributes the lion's share of text to the *Hippiatrica*, some 372 excerpts of 1223 in M. Seven excerpts in B are not present in M; nine are added by C.² Theonnestus cites Apsyrtus by name repeatedly; while Hierocles paraphrases nearly every chapter of the text. A number of passages from Apsyrtus appear in word-for-word translation in the *Mulomedicina Chironis*, which contains, moreover, two chapters attributed to Apsyrtus which are not extant in Greek; the date of the compilation, however, is not certain.³ The Latin author Vegetius appears to have known this translation, providing a *terminus post quem* of the late fourth or early fifth century.⁴ Pelagonius, who

¹ On Apsyrtus, see Björck, 'Apsyrtus, Julius Africanus, et l'hippiatrique grecque,' *Uppsala Universitets Årsskrift* 1944.4; Oder, 'Apsyrtus: Lebensbild des bedeutendsten altgriechischen Veterinärs,' *Veterinärhistorisches Jahrbuch*, 2 (1926), 121–36. C. Sprengel, 'De Apsyrtio Bithynio hippiatro,' in C. F. Probst, *De mutationibus, praecipue nervorum et vasorum, quae in trunco dissecto fiunt*, diss. (Halle, 1832).

² Excerpts attributed to Apsyrtus in M but anonymous in B listed CHG II pp. vii–viii; additions from C in Oder, 'De hippiatricorum codice Cantabrigiensi', 58.

³ Parallel passages: see *Claudii Hermeri Mulomedicina Chironis*, ed. E. Oder (Leipzig, 1901), pp. 139–53. Chapters not in Greek: 157, *De coactionibus*, and 266–7, *De capitis dolore*.

⁴ *Digestorum artis mulomedicinae libri*, ed. Lommatszsch, p. 12.

used Apsyrtus both as a source of content and as a model of literary style, worked from the Greek text rather than the Latin translation. Apsyrtus is mentioned in the false attributions in *Geoponica* XVI, and also (along with Simon and Xenophon) in the title of the collections of hippiatric texts in three manuscripts.⁵ A note in cod. Vindobonensis philol. gr. 284 (late fifteenth century) describes him as a *philosophus summus*.⁶

APSYRTUS' IDENTITY

In contrast to the text of Eumelus, which is frustratingly uninformative about its author, Apsyrtus' treatise is a highly individualistic document written almost entirely in the first person; moreover, it evokes the atmosphere of his society and his times through an abundance of concrete detail. Apsyrtus tells the reader a certain amount about himself in the dedication of the treatise which, prefacing the letter on fever, opens both the M and B recensions of the *Hippiatrica*:

Στρατευσάμενος ἐν τοῖς τάγμασι τοῖς ἐπὶ τοῦ Ἰστροῦ ποταμοῦ ἔγγνων τὰ συμβαίνοντα τοῖς ἵπποις, ἐν οἷς καὶ διαφωνοῦσιν. ἀναλεξάμενος οὖν ταῦτα (αὐτὰ Μ) καὶ τὰ πρὸς αὐτὰ βοηθήματα προσφωνήσω σοι, φίλτατε Ἀσκληπιάδη, τοῦτο τὸ βιβλίον, ὅντι μοι πολίτῃ καὶ ἱατρῷ μεγίστῳ.⁷

While campaigning in the legions that are on the Danube river, I learned about the accidents that befall horses, and those in which they die.⁸ Having gathered these, and the remedies for them, I dedicate this book to you, dearest Asclepiades, since you are my fellow-citizen and a very great doctor.

This passage is echoed by an entry in the *Souda*:

Ἀψυρτος· Προυσαεὺς (ἦ) Νικομηθεύς, στρατιώτης· στρατευσάμενος ἐπὶ Κωνσταντίνου τοῦ βασιλέως ἐν Σκυθίᾳ παρὰ τὸν Ἰστρον ἵππιατρικὸν βιβλίον οὗτος ἔγραψε καὶ φυσικὸν περὶ τῶν αὐτῶν ἀλόγων, καὶ ἕτερα.⁹

⁵ Vat. gr. 114, fo. 118^r; Vat. gr. 1066, fo. 1^r; and Vat. Ott. 388, fo. 41^r.

⁶ A. Ludwich, *Die Homerische Batrachomachie des Karers Pigres* (Leipzig, 1896), 480, identifies the MS as the notebook of an Italian humanist. A list of names contains on fo. 72^r the entry: 'Ἀψυρτος, οὐ· non dico fratrem medeae: sed de quo nunc loquor philosophus summus fuit: et plurimos libros de medicina animalium fere omnium conscripsit potius divinitus quam humane' (*Apsyrtus, -oui*: I don't mean the brother of Medea, but the one of whom I speak was a great philosopher, and he wrote many books on the medicine of nearly all animals, more divinely than humanly).

⁷ M1 = B1.1, CHG I p. 1.

⁸ Apsyrtus' use of the word with this meaning noted by Casaubon in his copy of the Basel edition of the *Hippiatrica*, BL 779 e. 4, pp. 1 and 124; also by C. B. Hase, with criticism of Ruel's translation of the term as *despondet*: *Leonis Diaconi Historiae libri X* (Bonn, 1828), p. 406.

⁹ S.v. Ἀψυρτος (Adler, A 4739). Adler attributes the notice to Hesychius. The information is presented in the order of biographies in the *Onomatologos*, which had a section on authors of

Apsyrtus: native of Prousa or Nicomedia, a soldier. He campaigned under the emperor Constantine in Scythia along the Danube. He wrote a book on horse-medicine and a magical work about horses too, and other things.

What are we to make of this information? Apsyrtus himself tells us that he was a soldier, and his statement is corroborated by references throughout the text to elements of military life, and to the Thracian and Sarmatian horses and horsemen whom he encountered on the Danube frontier. The term *τάγμα* is the equivalent of *legio*;¹⁰ unfortunately Apsyrtus does not give more specific information about the legions or camps to which he was attached.¹¹

The statement in the *Souda* that Apsyrtus wrote a book on horse-medicine is obviously true. The term *φυσικόν* implies some sort of magic: that Apsyrtus was conversant in this genre is confirmed by the presence, in the M recension of the *Hippiatrica*, of twenty-one spells under his name; it is unclear, however, whether these belonged to a separate book. It is likewise possible that the treatments prescribed for cows were collected in a separate volume, to which *ἔτερα* in the *Souda* refers: the preface to this work on cows is preserved in the *Hippiatrica*, as we shall see. That Hierocles and Theomnestus do not cite Apsyrtus' magical prescriptions or cures for cows may be evidence that that material was presented separately, or may simply be a reflection of the interests of the later authors.

Apsyrtus' name is an unusual one. The mythical Apsyrtus was, of course, the younger brother dismembered and cast into the sea by Medea.¹² The name was not used in the Classical period, but appears, along with other mythological names, in the Imperial period, when such names were often given to slaves.¹³ The name is certainly not a Christian one, and there is little in the text to suggest that Apsyrtus was Christian. As we shall see below, the deities

technical treatises, such as *γεωργικά*, *οἰωνοσκοπικά*, etc.: G. Wentzel, 'Die griechische Übersetzung der Viri illustres des Hieronymus', *Texte und Untersuchungen der althristlichen Literatur*, 13.3 (Leipzig, 1895), 1–2; idem, 'Hesychiana', *Hermes*, 33 (1898), 275 ff. But a number of *Souda* entries, as we shall see, appear to have been drawn from the *Hippiatrica*; this too may be one of them. The notice reappears in the prosopographical and mythological encyclopaedia compiled in the 11th c. by Eudokia Makrembolitissa, with the addition of the word *λατρός* before *στρατιώτης*, and, in place of *καὶ ἔτερα*, the information that his work was in four books. J. B. d'Ansse de Villoison, *Anecdota Graeca*, 65.

¹⁰ H. J. Mason, *Greek Terms for Roman Institutions* (Toronto, 1974), 163.

¹¹ For the legions stationed along the Danube, according to the *Notitia dignitatum*, see A. H. M. Jones, *The Later Roman Empire* (Oxford, 1964), vol. III, tables ix, p. 370, and xii, p. 378.

¹² Apollodorus, ed. R. Wagner (Leipzig, 1926), I. 133–4. A number of place-names on the coast of the Black Sea were interpreted in antiquity as allusions to this episode: Ovid, *Tristia* III.2 on Tomis; Stephanus, s.v. *Ἀψυρτίδες*, *Τομεύς*.

¹³ Xenophon of Ephesus, writing in the 2nd or 3rd c. AD, uses the name for a character in his *Ephesiaca* (I.14.7, II.3.1, etc., along with e.g. *Εὐξείνιος*). 'Apsyrtus' appears in a number of Latin inscriptions from south Italy, around the 1st c. AD; *LGNP* IIIA, *Ἀψυρτος* 1–4. An appearance of

invoked in the spells that he prescribes illustrate only the syncretistic nature of Late Antique magic: Christ is present, but side by side with Jahweh and Abrasax.¹⁴

There are two important points in the *Souda* notice that are not confirmed by evidence in Apsyrtus' preface. The first is the mention of the emperor Constantine, which would place Apsyrtus in the early fourth century.¹⁵ Constantine campaigned against the Sarmatians in 323.¹⁶ Björck has pointed out, however, that the use of Apsyrtus' treatise by Theomnestus creates a chronological puzzle. Theomnestus describes how he accompanied an emperor *ὦς φίλος*, 'as a friend', from Carnuntum over the Alps for the latter's wedding. This emperor would appear to be Licinius, who travelled from Carnuntum to marry Constantine's sister at Milan in 313.¹⁷ Doubting that Theomnestus would advertise his friendship with Licinius after that emperor's downfall in 324,¹⁸ Björck proposes that Theomnestus composed his treatise between 312 and 324. This dating would not contradict a Constantinian date for Apsyrtus; the two authors would thus appear to be contemporaries. But Björck further argues that the phrase *ὦς φίλος* implies that Theomnestus and Licinius were the same age. Since Licinius is said to have married at an advanced age, Theomnestus would have been a similar age when he was writing, and according to Björck's reasoning, would in this case hardly have been likely to quote from a much younger colleague.¹⁹ Citing the frequency of the name Fronto among Apsyrtus' addressees, Björck assigns to Apsyrtus a date between AD 150 and 250, and dismisses the testimony of the *Souda*, arguing that since most of the information in the notice may be drawn from internal evidence in Apsyrtus' text, the mention of Constantine must be a conjecture.²⁰

Björck's redating is not beyond doubt. Doyen-Higuet has pointed out that references to Licinius' age may be exaggerations for rhetorical effect.²¹ Moreover, it should be noted that Theomnestus does not name the emperor

the name in Asia Minor: *IK* 18.1, no. 124 and comments of F. Hasluck, *Cyzicus* (Cambridge, 1910), 246 and inscription V. 36; T. Wiegand, 'Reisen in Mysien', *AM* 29 (1904), 337. I am grateful to Dr Elaine Matthews for information from the database of the *Lexicon of Greek Personal Names*.

¹⁴ According to Oder, Apsyrtus was Christian; 'Apsyrtus: Lebensbild', p. 122.

¹⁵ This date accepted by Oder, 'Apsyrtus: Lebensbild', 121.

¹⁶ T. D. Barnes, *The New Empire of Diocletian and Constantine* (Cambridge, Mass., and London, 1982), 75.

¹⁷ References to this event in Lactantius, *De morte persec.* 45, Zosimus II.17, *et al.* collected in M. Haupt, 'Varia LIV', *Hermes*, 5 (1871), 23–5.

¹⁸ *Damnatio memoriae* of Licinius, 16 May 324: *Cod. Theod.* XV.14.1.

¹⁹ As we shall see below, the Arabic translation of Theomnestus preserves many more quotations from Apsyrtus.

²⁰ 'Apsyrtus', 9–12.

²¹ 'The *Hippiatrica* and Byzantine Veterinary Medicine', 111–14.

with whom he travelled, which may well suggest that he was writing after Licinius' disgrace. There is also the possibility that Apsyrtus served under more than one emperor, or that the name of an emperor—for example, Diocletian or Constantine Chlorus²²—was misread by a compiler or scribe. In fact not all manuscripts of the *Souda* have 'Constantine': 'Constantius' also appears as a variant.²³ Apsyrtus does not say whether the Sarmatians with whom he came into contact were enemies or allies, which might have provided an indication of the date at which he encountered them.²⁴ It seems likely that Apsyrtus wrote in the third or early fourth century.

Another difficulty is presented by the statement in the *Souda* that Apsyrtus was from Prousa or Nicomedia, whereas evidence in the text suggests that he was in fact a native of Clazomenae. In a mutilated lemma in M, and in the first lemma of L, Apsyrtus is given the epithet *Κλαζομένιος*.²⁵ Certainly an editor or scribe (especially the editor of L, who was not above adding information to lemmata) may have inferred Apsyrtus' citizenship from the fact that Asclepiades, whom Apsyrtus addresses as his fellow-citizen, is called *Κλαζομένιος* in another letter.²⁶ Yet the only passage in which Apsyrtus gives precise topographical information implies that he was familiar with the region of Clazomenae. In a discussion of the healing properties of the marsh-mallow (*ἀλθαία* or *μολόχη*), he mentions that the plant is difficult to find, but grows near the river Meles, which flows near Smyrna.²⁷ Given the proximity of Clazomenae to Smyrna, Apsyrtus' reference might lead us to suppose that he received his early medical education in the latter place.²⁸ The island city of Clazomenae might not appear to have been an ideal place to learn about horses, though it does lie opposite a fertile plain:²⁹ it is not surprising that

²² Diocletian campaigned against the Sarmatians in the late 280s and 290s, defeating them in 294: Barnes, *The New Empire of Diocletian and Constantine*, 50; On references to Constantine Chlorus' campaigns against the Sarmatians, see C. Mango, 'The Empress Helena, Helenopolis, Pylae', *TM* 12 (1994), 149 ff.

²³ See Adler's apparatus, ad loc.

²⁴ On the empire's Sarmatian allies, see Jones, *Later Roman Empire*, II. 619 ff.

²⁵ M1011, *CHG* II p. 96; noted by Oder and Hoppe, *CHG* I p. 1 n. 1, also *CHG* II p. vi.

²⁶ M736 = B37, *CHG* I p. 197.

²⁷ M225, *CHG* II p. 45, corrected from ἀχελίτη, a likely error of transliteration. On the Meles, associated in local lore with the birth of Homer, see G. E. Bean, *Aegean Turkey* (London, 1979), 24–5; W. M. Calder, 'Smyrna as Described by the Orator Aelius Aristides', in W. M. Ramsay (ed.), *Studies in the History and Art of the Eastern Provinces of the Roman Empire* (Aberdeen, 1906), 94–116. Marsh-mallow, as its name suggests, grows in waterlogged ground: a small piece of evidence in support of Calder's identification of the river. A dedication to the Meles as healer: *IK* 24.1, no. 766.

²⁸ On the (scant) finds of the Roman period, G. P. Oikonomos, 'Ἀνασκαφαὶ ἐν Κλαζομεναῖς', *Πρακτικά τῆς ἐν Ἀθῆναις Ἀρχαιολογικῆς Ἑταιρείας* (1921), 72–3. On Smyrna, see C. Foss, 'Archaeology and the "Twenty Cities" of Byzantine Asia', *American Journal of Archaeology*, 81 (1977), 481f.

²⁹ J. M. Cook, 'The Topography of Clazomenae', *Ἀρχαιολογικὴ Ἐφημερίς* (1953–4), 156.

Apsyrtus says that he acquired his expertise elsewhere. We may note, finally, that in his chapter on seasonal purging, Apsyrtus uses *Hyperberetaios* and *Dios*, the names of months in the Macedonian calendar—used in the province of Asia, but not in Bithynia—also compatible with a Clazomenian origin.³⁰

But perhaps the reference in the *Souda* to Prousa and Nicomedia is not to be dismissed completely. Apsyrtus may have been stationed near Nicomedia, capital of the East, after his Danube campaigns; he may well have composed his treatise there. Roughly between the two cities is the well-watered pasture-land of Malagina, in later centuries the base of the imperial cavalry, but perhaps already in use for that purpose at the time when Nicomedia was made an imperial capital.³¹ The only connection, in the text, to Bithynia appears to be a single letter addressed to a man called Achaikos of Nicaea (*Ἀχαϊκὸς Νικαιεύς*).³² Certainly the manner in which Apsyrtus refers to the Danube region, its inhabitants, and their horses, implies that he is not there at the time of writing.

Apsyrtus dedicates his treatise to a certain Asclepiades, whom he calls *ιατρὸς μέγιστος*, ‘a very great doctor’, an epithet that might appear incompatible with Apsyrtus’ implication in the next paragraph of the dedication that the treatise is intended for a reader not yet expert in the veterinary art:

λέγω δὴ πρῶτον περὶ τοῦ πυρέττοντος, ὡς ἐπιγνωσθήσεται ἐν τοῖς σημείοις τούτοις. ἐπέταξά σοι ταῦτα τὰ σημεία, ὅπως ἐκ τῶν τοιούτων πραγμάτων ἐν περισσοτέρᾳ ἀσφαλείᾳ τὰ τοῖς ἵπποις ἐκ τῶν τοιούτων σημείων ἐπιγινώμενα πάθη εὐχερῶς γνώσκῃς καὶ μὴ ἀσκόπως καὶ ἀγνώστως λέγων ἐκ τῶν ἀκριβῶς ἐπισταμένων καταγελᾶ. διὰ τοῦτο οὖν χρὴ ταῦτα ὑπὸ παντὸς ἵπποϊατροῦ λίαν γινώσκεισθαι...³³

I will speak first about the feverish horse, and how it may be recognized by these symptoms. I have set these symptoms in order for you, so that from such things you may easily and with greater certainty know the diseases that attack horses, and so that you will not, speaking heedlessly and ignorantly, be ridiculed by those who have precise understanding. On this account these things ought surely to be known by any horse-doctor...

Perhaps Asclepiades was a physician rather than a horse-doctor—he may have been associated with the sanctuary of Asclepius in Smyrna. In another letter he is described as *ἵπποτροφός*,³⁴ which may mean that he kept horses.

³⁰ B114 = CHG I p. 372; V. Grumel, *La chronologie* (Paris, 1958), 168–75.

³¹ On Malagina: W. M. Ramsay, *The Historical Geography of Asia Minor* (London, 1890), 202–6; C. Foss, ‘Byzantine Malagina and the Lower Sangarios’, *Anatolian Studies*, 40 (1990), 161 ff. (repr. in *Cities, Fortresses, and Villages of Byzantine Asia Minor* (London, 1996), study VII); S. Şahin, ‘Studien über die Probleme der historischen Geographie des nordwestlichen Kleinasien II. Malagina/Melagina am Sangarios’, *Epigraphica Anatolica*, 7 (1986), 153–66.

³² M170 = B10.1, CHG I p. 56.

³³ M1, CHG I p. 1.

³⁴ M736 = B37, CHG I p. 197.

THE FORM OF THE TREATISE

Apsyrtus warns the reader not to demand literary cleverness in his treatise:

προσφωνῶ σοι, φίλτατε Ἀσκληπιάδῃ, τοῦτο τὸ βιβλίον ... ἐν ᾧ μὴ ἐπιζητήσης
λογιότητα, ἀλλ' ἐκ τῆς πείρας φυσικὴν ἐμπειρίαν ἐπίγνωνθι.³⁵

I dedicate this book to you, dearest Asclepiades... in it, do not seek eloquence, but recognize scientific experience from practice.

Yet his writing is not without art: the form, style, and content of Apsyrtus' treatise show that he was well acquainted with literary conventions of his age, and in particular those of medical writing. The modest protestation is not only a topos appropriate for the beginning of a book,³⁶ but contains an allusion to two words significant in ancient medical writing, *λόγος* and *πείρα*.³⁷ The dynamic relationship between tradition and experience is a recurring theme in the work of Galen,³⁸ most famously expressed in the image of medicine progressing by the interaction of *λόγος* and *ἐμπειρία* in the way that a man walks forward by using his two legs.³⁹ Despite his emphasis on what he has learned, so to speak, on the job, it is clear that Apsyrtus referred to written sources when composing his text. Moreover, by couching his veterinary manual in the form of letters purporting to answer questions posed by friends and colleagues, Apsyrtus portrays himself as an authority on the subject. Even if they are not real, Apsyrtus' letters evoke the image of a circle of horsemen and horse-doctors appealing to him for help from all across the Eastern empire.⁴⁰

Collections of questions and answers, or *erotapokriseis*, are a form related to dialogue, and similarly used for the purpose of instruction.⁴¹ Apsyrtus gives the form more flesh and more literary pretension by putting his answers in the form of letters. The epistolary genre was favoured by writers of the Second

³⁵ M1 = B1.1, CHG I p. 1.

³⁶ E. Norden, *Die Antike Kunstprosa*, (Leipzig and Berlin, 1909), II. 595 n. 1.

³⁷ Cf. for example Dioscorides, ed. Wellmann, praef. 4: παρακαλοῦμεν δὲ σὲ καὶ τοὺς ἐντευξομένους τοῖς ὑπομνήμασι μὴ τὴν ἐν λόγοις δύναμιν ἡμῶν σκοπεῖν, ἀλλὰ τὴν ἐν τοῖς πράγμασι μετ' ἐμπειρίας ἐπιμέλειαν ('We entreat you and those who will encounter this treatise to consider not our literary prowess, but our attention to practice and experience').

³⁸ Galen's treatise on the subject, ed. R. Walzer, *Galen on Medical Experience* (Oxford, 1944). *πείρα* contrasted with *λογισμοί* in e.g. *De sectis*, ed. Kühn, I. 65; *De alimentorum facultatibus*, ed. Kühn, VIII. 453–4.

³⁹ *De compositione medicamentorum secundum locos*, ed. Kühn, XII. 188.

⁴⁰ Björck viewed the letters as fictional, 'Apsyrtus', 29.

⁴¹ H. Dörrie, 'Erotapokriseis', in *Reallexikon für Antike und Christentum*, vol. VI (Stuttgart, 1966), cols. 342–70; A.-M. Ieraci Bio, 'L'erotapókrisis nella letteratura medica', in C. Mor-eschini (ed.), *Esegesi, parafrasi, e compilazione in età tardoantica* (Naples, 1995), 186–207.

Sophistic: Aelian and Alciphron (second/third century AD) composed collections of fictional letters, *ethopoiai* in the voices of farmers and others.⁴² Collections of real letters seem to have enjoyed a vogue around the fourth century: one may think of the collections of the correspondence of Libanius, Synesius, or Gregory of Nazianzus. Apsyrtus may also have been aware of the practice of writing technical essays in the form of letters; there are several well-known ones on medicine.⁴³ The use of letters to convey technical material, though, usually involves a single, long letter rather than a collection.⁴⁴ There are, however, examples of collections of technical letters: in the field of medicine, that of Archigenes of Apamea (from the time of Hadrian), or in the domain of law, the imperial rescripts (most of them from the third century), composed in the form of letters responding to a petition.⁴⁵

Any of these might have served as a model to Apsyrtus, but rescripts in particular have certain characteristics which seem to be echoed in Apsyrtus' writing. They include both replies to private petitioners (many of whom were soldiers) and longer letters to officials. The former contain instructions in the form 'you can . . .', 'you should . . .', 'you may . . .' (*potes, debes, non prohiberis*); while the latter, which are on average longer, do not. Rescripts do not end with a greeting. They were posted up in batches that had been glued together into a *liber libellorum rescriptorum*.⁴⁶

It is also possible that Apsyrtus was influenced by the administrative practices of the army. Another interesting parallel to his text is provided by the records of a third-century cavalry regiment, the *cohors XX Palmyrenorum*, which are composed in the form of letters describing the horses assigned to soldiers. The letters were filed by being pasted together into a roll or *liber epistularum*.⁴⁷ Of course, these parallels do not offer proof that Apsyrtus' book was published in the form of rolls rather than a codex.

⁴² P. Rosenmeyer, *Ancient Epistolary Fictions* (Cambridge, 2001), 255 ff.

⁴³ H. Peter, 'Der Brief in der römischen Litteratur', *Abhandlungen der königl. Sächsischen Gesellschaft der Wissenschaften*, Phil.-hist. Classe 20.3 (Leipzig, 1901), 216 ff. Letters on medicine: e.g. W. Jaeger, *Diokles von Karystos* (Berlin, 1938), 75–8; also those attributed to Hippocrates in R. Hercher, *Epistolographi Graeci* (Paris, 1873).

⁴⁴ Demetrius seems to be referring to this practice when he warns that a letter stuffed with σοφίσματα καὶ φυσιολογίαι is not a letter at all; L. Radermacher (ed.), *Demetrii Phalerei qui dicitur De elocutione libellus* (Leipzig, 1901), 231. Apsyrtus' exposition of an entire discipline in a collection of letters is noted as unusual by J. Sykutris, 'Epistolographie', *RE Suppl.* V (Stuttgart, 1931), col. 205.

⁴⁵ On rescripts, see T. Honoré, *Emperors and Lawyers*, 2nd edn. (Oxford, 1994), esp. 33–70; also U. Wilcken, 'Zu den Kaiserreskripten', *Hermes*, 55 (1920), 1–42; Gaius, *Institutes* I.5 and I.7 on *epistulae* and *responsa*. Rescripts were collected, along with other imperial edicts, in the late 3rd-c. Codex Gregorianus and Codex Hermogenianus. An example of a jurist's letter-collection is the *Libri epistularum* of Labeo cited in the *Digest*, 41.3.30; cf. Peter, 'Der Brief', 220.

⁴⁶ According to Honoré, the proportion of rescripts to longer letters is thirty-one to one; *Emperors and Lawyers*, 49.

⁴⁷ J. F. Gilliam, 'Some Military Papyri from Dura, I: Texts relating to Cavalry Horses', *Yale Classical Studies*, 11 (1950), 171–209.

The type of letter-writing we see in Apsyrtus' treatise was probably learned as a practical skill rather than as part of a literary education; we might imagine that he acquired a familiarity with its rules while studying away from home or travelling with the army: there are many examples among the papyri of letters from students and soldiers.⁴⁸ But the fact remains that his device of *erotapokrisis* combined with the epistolary form, in addition to being an effective and informal way to organize short passages of advice on different subjects, may be understood as a clever literary conceit—which may have been a reason that Apsyrtus was deemed worthy of a notice in the *Souda*.

CONTENTS AND ORGANIZATION OF THE TEXT

The excerpts from Apsyrtus' text preserved in the *Hippiatrica* fall into four categories: letters, essays on classification, recipes for drugs, and magical remedies. The letters make up the largest proportion of the text. Each one begins with a brief, formulaic greeting, and a conventional phrase introducing the subject of the letter, but is afterward entirely technical in content. Each covers a single subject, and is generally in a tripartite form: diagnosis—aetiology—therapy. Seventy-one epistolary greetings may be retrieved from the M, B, and C recensions. Six long essays, those addressed to *δεσπόται*, treat classification (*ἀφορισμός*) of the grave diseases, glanders and colic, and other important topics such as hoof-care and symptoms used in diagnosis.⁴⁹ Another, dedicated to an anonymous 'you' (*σοί*), describes the characteristics of horses from different regions.⁵⁰ The last letter, addressed to Celer, introduces a collection of recipes for drugs, which may have been at the end of the treatise; this collection was divided into sections on drenches (*ἐγχυματισμοί*) and ointments (*μαλάγματα*).⁵¹ Many recipes are appended to the letters describing specific conditions; others are loose or in the long appendix of drugs. The spells are brief and identified as cures for specific diseases; they are not in the form of letters either.

What was the original organization of the treatise? The fact that each letter is a separate entity allows for a flexible or amorphous structure. The

⁴⁸ On the practical skill of letter-writing, and its place in education, see R. Cribiore, *Gymnastics of the Mind: Greek Education in Hellenistic and Roman Egypt* (Princeton, 2001), 215 ff.

⁴⁹ M759 = B129.1, *CHG* I p. 385–6; M662 = B104.1–4, *CHG* I pp. 360–2; M59 = B33.1–10, *CHG* I pp. 163–70; B2.1–6, *CHG* I pp. 13–16; C49.1–6, *CHG* II pp. 180–2; C80 = *CHG* II pp. 216–17.

⁵⁰ B115, *CHG* I pp. 372–5.

⁵¹ M759 = B129, *CHG* I pp. 385 ff.

dedication prefaces the letter on fever, which must have come first. The pharmacological collection was probably at the end of the treatise, as is often the case in manuals of human medicine. But the organization of the body of the treatise is difficult to reconstruct. It is possible that the order of the letters is preserved in the M recension, which is amorphous enough. There is one example of a pair of letters presented in sequence:

Ἀψυρτος Ἀμμωνίῳ Ἀλεξανδρεὶ χαίρειν. ἔγραψάς μοι πυνθανόμενος, πόθεν συμβαίνει κριθιάσις τοῖς ἵπποις, καὶ τίς ἡ πρὸς αὐτὴν θεραπεία...

Apsyrtus to Ammonius the Alexandrian, greetings. You wrote to me asking why laminitis occurs in horses, and what is the treatment for it...

Ἀψυρτος Ἀμμωνίῳ Ἀλεξανδρεὶ χαίρειν. ἔγραψάς μοι τάχιον περὶ κριθιάσεως, ἀναγκαῖον δέ σε καὶ περὶ διαρροίας εἰδέναι...⁵²

Apsyrtus to Ammonius the Alexandrian, greetings. You wrote to me earlier about laminitis, but it is also necessary that you know about diarrhoea...

Other series of excerpts seem to have been part of a single letter, separated by the compiler: the passage on snakes, scorpions, and spiders is an example.⁵³ The magical texts, which are not incorporated into letters, may have formed a separate volume (perhaps the *physikon* mentioned in the *Souda*), or may have been appended to the letters, along with other prescriptions, as they appear in M.

Was the treatise composed all at once? A number of cross-references preserved in the excerpts betray their sequence, as though they were part of a single, unified composition. For example, in his letter on whether bloodletting is good for horses, Apsyrtus refers to something he has mentioned in another letter: *ὥς εἰρήκαμεν ἐν τῇ πρὸς Πούπλιον Οὐάρωνα ἐπιστολῇ* 'as we have said in the letter to Publius Varro'.⁵⁴ There are also references to various ointments for which recipes are given elsewhere or in the long collection of instructions for the preparation of drugs.⁵⁵

Let us turn now to the letters themselves. In form they follow the conventions of genuine letters that have been preserved in the papyri. Each letter begins with a simple greeting: Ἀψυρτος τῷ δέϊνι χαίρειν, 'Apsyrtus to so-and-so, greetings'.⁵⁶ The order of the names, with that of the sender first, is still

⁵² M102 = B8.1, *CHG* I pp. 48–9; M103 = B35.1, *CHG* I p. 192 (B has *ἔγραψά σοι*); possibly also the two, on orthopnoia and cough, addressed to Secundus: M456 = B27.1, *CHG* I p. 140, and M458 = B22.1, *CHG* I p. 103.

⁵³ B86 = *CHG* I pp. 308–11.

⁵⁴ M170 = B10.1, *CHG* I p. 56. The reference may be to M73 = B9, *CHG* I pp. 53–5, though the addressee is called in this case *Τοράνιος Βάρων*.

⁵⁵ e.g. M437 = B53.1, *CHG* I p. 238; M677 = B106, *CHG* I pp. 366–7.

⁵⁶ As recommended by ps.-Libanius, in V. Weichert, *Demetrii et Libanii qui feruntur τύποι ἐπιστολικοί et ἐπιστολμαῖοι χαρακτήρες* (Leipzig, 1910), 21.

the antique one.⁵⁷ The names of Apsyrtus' addressees are of particular interest.⁵⁸ Though we may be unable to pinpoint the place where Apsyrtus wrote his letters, we are given the names of the recipients for whom they were intended: the names of sixty-five men are preserved in the text, often with an indication of military rank, occupation, or place of origin.⁵⁹ These define the horizons of Apsyrtus' world, in terms both of geography and of social milieu. There is of course a strong possibility that the names are no more than a literary fiction. But they may, on the other hand, represent real people whom Apsyrtus had met on his travels or during his studies. Apsyrtus might have considered it a compliment to friends and colleagues to dedicate sections of his treatise to each one.

The names of Apsyrtus' addressees are a mixture of Greek and Latin (the latter in transliteration). The ethnicity of the men, or at least the language of their names, is not unrelated to their professions. All the soldiers have Latin names, save for *Ἡρακλείων χιλίαρχος*. Twenty-three of the men are addressed as *ἰππιατροί*; three others simply as *ιατροί*.⁶⁰ They, on the other hand, have predominantly Greek names, with *Μάρκος*, *Σεκοῦνδος*, *Γάϊος*, *Φρόντων*, and *Ροῦφος Ὀκτάουιος* (if the elaborate formulation *ἐσπουδακότη σοι ἐν τῇ ἱατρικῇ τῶν ἵππων ἐν παντὶ μέρει*⁶¹ means that he was a horse-doctor) being the exceptions. Several have Egyptian names: *Ὠρίων*, *Ἀπίων*, *Ἀμμώνιος*, *Μέμωνων*.⁶² Among the Greek names are *Ἡγησαγόρας*, *Πασικράτης*, *Ἀντίπατρος*, and *Ἀγαθοκλῆς* as well as the possibly Christian *Ἐπιφάνιος* and *Δημήτριος*.

In ten letters the addressee is qualified as *ἵπποτρόφος* 'horse-keeping' or 'horse-rearing', all but one in the form *ἵπποτροφούντά σε*. The term *ἵπποτροφία* was used to denote the civic duty of providing horses for the hippodrome, but also simply caring for horses.⁶³ As the men thus addressed are civilians and also soldiers of different ranks, one can only conclude that Apsyrtus merely meant that they were concerned with keeping horses. One

⁵⁷ F. Ziemann, *De epistularum graecarum formulis sollemnibus quaestiones selectae* (Halle, 1910), 253 ff.

⁵⁸ The names and titles are listed in *CHG* I pp. 451–2 and included in the index *CHG* II pp. 340–2.

⁵⁹ They are copied more correctly in B than in M.

⁶⁰ Which probably means 'horse-doctor', among colleagues; Adams, *Pelagonius*, 58.

⁶¹ M71 = B96, *CHG* I p. 326.

⁶² On Egyptian names of horse-doctors in the papyri, see Nanetti, *ἼΠΠΙΑΤΡΟΙ*, 53.

⁶³ J. Gascou, 'Les Institutions de l'hippodrome en Égypte byzantine', *Bulletin de l'Institut français d'archéologie orientale*, 76 (1976), 192–3, sees an evolution from specific to more general use of the term between the 4th and 6th c. Apsyrtus' usage would appear to contradict this hypothesis. On the use of the term in an inscription from the hippodrome at Caesarea, see C. Miles Lehmann and K. G. Holum, *The Greek and Latin Inscriptions of Caesarea Maritima* (Boston, Mass., 2000), no. 109, pp. 112–14.

man, a decurion, is described as *κτηνοτρόφος* 'beast-keeping'; the letter addressed to him is about an ailment of mules.⁶⁴ Another is an expert on mules: Apsyrtus begins a letter to Apollophanes by saying, 'since you care for horses and are well versed in the care of hybrids' (*ἱπποτροφούντά σε καὶ σπουδαίως ἔχοντα ἐν τῇ συστάσει τῶν ἑτερογόνων*).⁶⁵

In describing military ranks, Apsyrtus uses the translations *ἐκατοντάρχης* and *χιλίαρχος* for *centurio* and *tribunus militum*, but the transliteration *δεκουρίων* for *decurio*.⁶⁶ This inconsistency may indicate that he was not troubled enough by considerations of stylistic purism to use exclusively the more literary or elegant Greek forms. Apsyrtus addresses six men as *δέσποτα*, the equivalent of *dominus*;⁶⁷ their names, Sabinus, Gallus, Aelian, Romulus, Celer, and Ursus, all figure among the names of consuls in the late third to mid-fourth centuries.⁶⁸ One of them is described as *ἐκατοντάρχης* and another as *στρατηλάτης* or 'general'; Apsyrtus' use of the respectful title and a more formal tone implies that he himself was of a lower rank.⁶⁹ There is no indication of the place of origin of men who are given military ranks (apart from one instance, *Ποστούμιος Δάξ ἱππότης*, Postumius the Dacian, *eques*), which might indicate that they belonged to the same company, or were all stationed in one place. There is no reference to specific cohorts, but one soldier is described as belonging to the *τάγμα ἔβδομον* or seventh legion.⁷⁰

Even if the names could be invented, the cities are real; and if we assume that rather than being chosen at random, they represent places with which Apsyrtus was familiar, we may detect some patterns in their distribution. Five letters, one of which is the dedication of the treatise, are addressed to natives of Clazomenae.⁷¹ One letter is addressed to an Ephesian.⁷² Those addressed to Laodiceans and an Antiochene do not specify whether the Syrian cities or

⁶⁴ M437 = B53.1, *CHG* I p. 237.

⁶⁵ M626 = B102, *CHG* I p. 352.

⁶⁶ Mason, *Greek Terms for Roman Institutions*, 163.

⁶⁷ Mason, p. 120; D. Magie, *De romanorum iuris publici sacrique vocabulis sollemnibus in graecum sermonem conversis* (Leipzig, 1905), 66.

⁶⁸ Sabinus B2.1, *CHG* I p.13; Gallus M662 = B104, *CHG* I pp. 360–2; Aelian M59 = B33.1, *CHG* I p. 163; Celer M759 = B129.1, *CHG* I p. 385; Romulus *hekatontarches* (centurion): C 49.1–6, *CHG* II pp. 180–2; Ursus *stratelates* (magister militum): C80 = *CHG* II pp. 216–17. See R. Bagnall, A. Cameron, *et al.*, *Consuls of the Later Roman Empire* (Atlanta, 1987), who tentatively identify one man, Fl. Ursus 4 (cos. 338), as Apsyrtus' addressee.

⁶⁹ On the uses of *despota*, see E. Dickey, *Greek Forms of Address* (Oxford, 1996), 95 ff., and 'Kyrie, *Despota*, *Domine*: Greek Politeness in the Roman Empire', *JHS* 121 (2001), 1–11.

⁷⁰ M896 = B116.1, *CHG* I p. 375.

⁷¹ M736 = B37, *CHG* I p. 197, also M1 = B1.1; M627 = B95, *CHG* I p. 323; M685 = B108, *CHG* I p. 368; B50, *CHG* I p. 226 (called simply *πολίτης*).

⁷² M104 = B74.1, *CHG* I p. 283.

those in Asia Minor are implied.⁷³ (Apsyrtus describes Cappadocian horses and a Cappadocian remedy, and also a Syrian practice, but he may have come in contact with these without actually visiting the area.⁷⁴) Other destinations reflect Apsyrtus' acquaintance with the Danube region: there is one letter to a Dacian and five to natives of Tomis, south of the Danube delta on the western shore of the Black Sea.⁷⁵ Single letters are addressed to natives of Carthage, Kallipolis, and Corinth.⁷⁶ There is no reference, in what remains of the text, to Constantinople; negative evidence in support of a date of composition before the foundation of that city in AD 324.

The number of Alexandrians among Apsyrtus' acquaintances is worthy of note: there are nine, five of whom are called *hippiatroi*.⁷⁷ Apsyrtus' reference to a surgical procedure practised by Alexandrians⁷⁸ may suggest that part of his medical training took place in Alexandria;⁷⁹ or may simply reflect that city's renown as a centre for medical study. There is copious evidence from ostraca and papyri for the practice of veterinary medicine in Egypt, but none that obviously refers to the teaching of the discipline.⁸⁰ A fragmentary letter is headed Ἀψυρτος Κλαζομένιος ἵπποϊατρὸς τῷ ἑαυτοῦ ἱατρῷ Κιοστίνῳ Μοσχίωνι, 'Apsyrtus of Clazomenae, the horse-doctor, to his own doctor Justinus Moschion';⁸¹ if ἑαυτοῦ is analogous to *noster* as used by the Latin jurists, it may designate a teacher, or the head of a school.⁸²

Apsyrtus' address-book introduces the reader to a specialized section of Late Antique society, and invites the speculation that there might exist other records of some of these men. A cursory perusal of a few inscription collections yields a few matches—a Damas in Laodiceia, a freedman and centurion Fronto in Ephesus⁸³—but nothing more specific.

After the greeting, without any further polite expressions, the subject of the letter is introduced, often by describing or implying the existence of a letter of

⁷³ Laodicea ad Lycum would represent a stopping-point along the Roman road from Ephesus to Cappadocia, whereas Antioch on the Orontes and Syrian Laodicea would shift Apsyrtus' focus of attention to the south-east.

⁷⁴ M1062 = B130.134, *CHG* I pp. 425–6.

⁷⁵ M533 = B6.1, *CHG* I p. 43; B18.4, *CHG* I p. 93; M192 = B38.1, *CHG* I p. 198; M152 = B99.1, *CHG* I p. 341; M438 = B54.1, *CHG* I p. 239.

⁷⁶ On a Late Antique gravestone of a horse-doctor from Corinth, cf. P. Clément, 'Korinthas, veterinary', in S. M. Burstein and L. A. Olin (eds.), *Panhellenica: Essays in Ancient History and Historiography in Honor of Truesdell Sparhawk Brown* (Los Angeles, 1980), 187–9.

⁷⁷ M207 = B47.1–2, *CHG* I pp. 221–2; M307 = B101.1–2, *CHG* I pp. 347–8; M337 = B82.1, *CHG* I pp. 301–2; M643 = B103, *CHG* I pp. 352–3; M347 = B39.1, *CHG* I pp. 204–5; M153 = B10.9, *CHG* I pp. 60–1; M103 = B35, *CHG* I p. 192; B24.1, *CHG* I p. 121; M162 = B48.1, *CHG* I p. 223.

⁷⁸ M105 = B20, *CHG* I p. 96.

⁷⁹ As suggested by Oder, 'Apsyrtus', 121.

⁸⁰ Nanetti, 'ΙΠΠΙΑΤΡΟΙ', 51–4.

⁸¹ M1011, *CHG* II p. 96.

⁸² Honoré, *Gaius*, 4.

⁸³ *IK* 49.105; *IK* 16.2202.

inquiry (ἑρωτηματικὴ ἐπιστολή), by which device Apsyrthus justifies his letter of response (ἀποφαντικὴ or ἀντεπισταλτικὴ) or instruction (διδασκαλική, διδασκαλική).⁸⁴ For example:

ἔγραψάς μοι ἐπερωτῶν, τίνα βοηθήματα πρὸς τὴν ἐπιστροφὴν τοῦ ἐντέρου⁸⁵

You wrote to me asking, what are the remedies for twisting of the intestine.

Sometimes the letter is described in more detail:

ἔγραψάς μοι συμβεβηκέναι σου τῷ ἵππῳ ἐν τῷ ποδὶ τῷ ἐμπροσθίῳ εἰς τὸ ἐντὸς μέρος τῆς ὀπλῆς ἐν τῇ ἐκφύσει τῆς στεφάνης οἶδημα μέγα σκληρόν, καὶ λίαν χωλαίνειν ἐξ αὐτοῦ.⁸⁶

You wrote to me that a large, hard, swelling occurred on your horse's foreleg on the inner part of the hoof at the beginning of the coronet, and that it is very lame from it.

In one instance, Apsyrthus implies that he is responding out of sympathy rather than to a specific request:

ἀκούσας σε πάνυ καταπονούμενον τῇ λύπῃ περὶ τοῦ συμβεβηκότος πάθους τῷ ἵππῳ σου, οὐκ ἀποκρύπτω σε τὰληθῆ τοῦ ἐλέγχου κειμένου ἐν τῇ ἱστορίᾳ, ὅτι περ οὐδέν ἐστιν ἀπόκρυφον τῶν ἐγκειμένων. δυσκόλως οὖν ἐπιχειρήσαντες ἐπιτευξόμεθα τοῦ θεραπεῦσαι. ἔστι γὰρ τὸ τῆς αἵμουρίας μᾶλλον ἀπηγορευμένον.⁸⁷

Having heard that you were very oppressed with grief on account of the disease that has afflicted your horse, I will not conceal from you the truth of the evidence that lies in the body of case-histories, since nothing of these matters is hidden. It is with difficulty that we shall attempt to succeed in treatment, for urinating blood is very disheartening.

Apsyrthus begins his response with the conventional 'disclosure formula', οἶδα, δοκεῖ μοι, χρή σε εἰδέναι, ἀναγκαῖον σε γινώσκειν,⁸⁸ 'I know', 'it seems to me', 'you ought to know', 'it is necessary for you to know' after which the letters are technical in content, without any further literary embellishment. All have a similar internal structure: the disease is named, its symptoms are listed, its aetiology is explained, and finally, treatments are recommended.

⁸⁴ According to the definitions of Demetrius and ps.-Libanius, respectively, ed. Weichert, pp. 13 ff. and 21.

⁸⁵ M571 = B36.1, *CHG* I p. 194; M98 = B 44.1, *CHG* I p. 215; M99 = B97, *CHG* I p. 335; M663 = B104.5, *CHG* I p. 362.

⁸⁶ M881 = B113.1, *CHG* I p. 370.

⁸⁷ C33.4, *CHG* II p. 168. We may compare the concerns expressed in these letters, and their informal tone, to Late Antique letters sent by or to cavalrymen, e.g. R. S. Bagnall, *The Florida Ostraka* (O. Florida): *Documents from the Roman Army in Upper Egypt* (Durham, NC, 1976), nos. 15 and 18, pp. 54 and 58.

⁸⁸ J. L. White, *The Form and Function of the Body of the Greek Letter: A Study of the Letter-Body in the Non-Literary Papyri and Paul the Apostle* (Society of Biblical Literature, 1972), 11–13.

These sections are introduced always in the same order, and always simply, with a connective δέ. For example, here are the ‘signpost’ phrases from the long letter on glanders (μᾶλιν)

ἔστι δὲ τὸ πάθος	The disease is
ἧς σημεῖα τάδε	Its symptoms are
συμβαίνει δὲ τοῦτο διὰ τό	It occurs because
θεραπεύων δ' ἂν τις ἐπιτυχάνοι	One might succeed in treating it by
ἡμέτερα δὲ εὐρήματα	Our discoveries are
καὶ τοῦτο δὲ γίνωσκε	Know this too
βοηθεῖ δὲ καὶ τοῦτο... ⁸⁹	And this also helps...

In only one instance is a phrase marking the end of a letter preserved;⁹⁰ such absence of a closing salutation is typical of letters with a ‘literary’ transmission, or collections of copies.⁹¹

Rather than simply listing different treatments, as do Eumelus and Anatolius, Apsyrtus presents a critical review of the options. His usual approach is to begin with a summary of the recommendations of others, then to add his own discoveries. Apsyrtus’ treatment of these sources reveals his familiarity not only with traditional agricultural manuals, but with the literature and methods of human medicine. His inclusion of another genre, that of magical texts, is additionally informative about the diversity of approaches to healing available to a horse-doctor in Late Antiquity.

WRITTEN SOURCES

Although Apsyrtus emphasizes that he has learned from experience, it is clear that he has consulted a number of written sources as well. He cites some of them by name, for which we may thank him; in fact he is the earliest of the authors in the *Hippiatrica* to do so. These citations are of different types. In several instances, Apsyrtus invokes the names of authorities from the distant past—Simon, Xenophon, and Mago the Carthaginian—the ‘classics’ of horsemanship and agriculture. His discussion of the qualities of different breeds begins

⁸⁹ B2.1–6, *CHG* I pp. 13–16.

⁹⁰ ὥς ἐν κεφαλαίῳ δὲ εἰπεῖν, αὕτη σοι ἐπιδείξιναι τούτων τῶν παθῶν καὶ θεραπείας, ‘to sum up, this has been the presentation for you of these diseases and the treatment’, M59 = B33.10, *CHG* I p. 170.

⁹¹ Ziemann, *De epistularum graecarum formulis*, pp. 356 ff.

περὶ ἵππου εἶδους πολλοῖς γέγραπται καλῶς, ἄριστα δὲ πάντων Σίμωνι καὶ Ξενοφῶντι Ἀθηναίοις ἀνδράσι . . .⁹²

Many have written well about the points of the horse, Simon and Xenophon the Athenians best of all . . .

The enumeration of traits of various breeds of horses that follows these introductory remarks is not based upon Xenophon, who does not discuss breeds. (Apsyrtus' list of breeds is different from the list in the 'Excerpta Anatoliana' in C and in the Bestiary of Constantine VII.) Apsyrtus mentions Mago's treatments in a passage (mutilated, and only preserved in M) that may have introduced a work or chapter on cows:

τὰ δε περὶ τοὺς βόας συμβαίνοντα πάθη καὶ τὰ πρὸς ταῦτα βοηθήματα ἄριστα γέγραπται Μάγωνι τῷ Καρχηδονίῳ τῇ Φοινικί < δι > διαλέκτῳ. καὶ ἄλλοις δὲ γέγραπται . . .⁹³

Concerning diseases of cattle and the remedies for them, the best has been written by Mago the Carthaginian in the Phoenician dialect. Others have written on the subject too . . .

(The phrase τὰ . . . συμβαίνοντα πάθη καὶ τὰ πρὸς ταῦτα βοηθήματα echoes Apsyrtus' dedicatory letter, addressed to Asclepiades, which appears to have been prefaced to the treatise on horses.) Apsyrtus also cites Mago on the subject of dysury in horses:

καὶ τοῦτο δὲ ἐκ τῶν Γεωργικῶν Μάγωνος τοῦ Καρχηδονίου. λέγει γὰρ τοῦ δυσουριῶντος ἵππου τοὺς ἐμπροσθίους πόδας κάτωθεν ὑποξύσαντα ἐκ τοῦ κατ' ὄνυχα μέρους, τὰ ὑποξύσαντα αὐτῆς τῆς ὀπλῆς τρίβειν ἐν οἴνῳ ὅσον κοτύλῃ καὶ ἐγχυματίζειν διὰ τῆς ῥινός, καὶ οὐρήσει.⁹⁴

This too is from the *Georgica* of Mago the Carthaginian. He says to file the underside of the hooves of the forelegs of a horse with dysury, to pound the hoof-filings with a *cotyle* of wine, and to administer as a drench through the nose, and it will urinate.

He does not, however, appear to have used any of those three books directly. Apsyrtus' work does not present any substantial parallels with Xenophon or with what we have of Simon. And it seems unlikely that he read Mago's work in the original Punic. It is more likely that Apsyrtus used one of the compilations that drew on Mago. Certainly the treatment for dysury, which belongs in the category of sympathetic magic, might be attributed to Democritus–Bolus, one of the Greek sources added to Mago by Cassius Dionysius.⁹⁵ Varro

⁹² B115, *CHG* I p. 372.

⁹³ M916 = *CHG* II p. 90, Speranza, *Scriptorum romanorum de re rustica*, 110.

⁹⁴ M59 = B33.8, *CHG* I p. 168, Speranza, fr. 57.

⁹⁵ See Wellmann, 'Die *Georgika* des Demokritos', 38–9.

also implies that Cassius Dionysius used material from Xenophon;⁹⁶ perhaps Apsyrtus encountered all these ancient sources in the same compilation. An echo of Aristotle's discussion of the diseases of the horse (without an attribution) may also come from Cassius Dionysius, since Aristotle, too, is included in Varro's list of Greek writers used by Cassius Dionysius.⁹⁷

Apsyrtus

Τρία γάρ εἰσι πάθη ὀξύτατα ἔν τε ἵππῳ καὶ τοῖς ἄλλοις ὑποζυγίοις, ὅσα μώνυχας ὅπλᾳς ἔχει· κύστις καὶ ἐπίστρεψις ἐντέρου, ὃ καλεῖται εἰλεός, καὶ καρδιακός. τὰ δὲ ἄλλα πάθη ὑπομένει ἡμέρας ἱκανάς. καὶ ταῦτα δὲ συντόμως ἀναιρεῖ τοὺς ἵππους, ἐὰν μὴ τάχιστα βοηθῇται· κριθίαισις . . .

There are three very grave diseases in the horse and other beasts of burden, all those that have uncloven hooves: the bladder, and twisted intestine, which is called *eileos*, and heart-disease. Other diseases they can survive for a long time. And these also carry off horses in a short time, if not remedied quickly: laminitis . . .

That Apsyrtus used Cassius Dionysius, Diophanes, or a related text is corroborated by the numerous parallels between Apsyrtus' text and those of Anatolius and Columella—neither of which, however, may be identified as his direct source.

In the letters, as we have seen, Apsyrtus names Eumelus three times.⁹⁸ And there are other passages in which he appears to follow Eumelus' words closely, as in the treatment for a heart ailment:⁹⁹

Apsyrtus

δεῖ τοῦτοις τὰ θερμαίνοντα διὰ τῶν μυκτήρων ἐγχεῖν, καὶ τὴν γλώτταν καταλαμβανόμενον διὰ τοῦ στόματος, πέπερι καὶ οἶνον καὶ ἔλαιον ἢ σκίλλαν ὡσαύτως, ἢ δαφνίδας ἢ λιβανωτὸν ἢ ἀριστολοχείαν ἢ σμύρνην ἢ θύμον . . .

Aristotle

Οἱ δὲ τροφίαί ἵπποι πλείστοις ἀρρωστήμασι κάμνουσιν. λαμβάνει γὰρ καὶ εἰλεός . . . λαμβάνει δὲ καὶ ἄλλος αὐτοὺς πόνος, καλεῖται δὲ τοῦτο κριθιάν . . . ἀνίατα δὲ καὶ τάδε, ἐὰν καρδίαν ἀλγήσῃ . . . καὶ ἐὰν ἡ κύστις μεταστῇ

Stabled horses suffer from many sicknesses. *eileos* afflicts them . . . and another malady afflicts them, this is called laminitis . . . and these are incurable, if it is troubled by its heart . . . and if the bladder is displaced

Eumelus

ἢ σκίλλαν, καὶ ἀριστολοχείαν ὀλίγην καὶ λίβανον καὶ σμύρναν καὶ θύμον ἐν οἶνῳ μιγέντα καὶ διὰ μυκτήρων ἐγχει. τὸ δὲ

⁹⁶ RR I.1.8. ⁹⁷ M59 = B33.4, CHG I p. 165; Aristotle, HA VII (VIII) 604a–b.

⁹⁸ M13 = B2.7, CHG I p. 17; M170 = B10.1, CHG I, p. 56; M74 = B10.3, CHG I p. 57.

⁹⁹ Aps. M425 (altered in B29.1–2), CHG I pp. 146–7; Eum. M427 (altered in B29.8), CHG I p. 149.

τροφήν δὲ παραβάλλειν τὴν ξηρὰν καὶ μηδὲν
τῶν χλωρῶν, καὶ τρῖψιν ποιεῖσθαι οἶνω καὶ
ἐλαίῳ. ἔστω δὲ σκεπασμένος τὴν κοιλίαν,
μάλιστα δὲ τὸ στήθος . . . δεῖ δὲ καὶ τὴν
ἵπποστασίαν καθαρὰν εἶναι, καὶ κεῖσθαι τι ἐν
αὐτῇ τῶν εὐωδῶν ἐχόντων, καὶ μυρσίνας ἢ
δάφνας ἢ τὰ τοιαῦτα.

One ought to pour warming [medicines] in
through the nostrils of such [cases], and,
holding aside the tongue, through the
mouth: pepper and wine and oil, or squill
in the same way, or laurel-berries, or
frankincense or birthwort or myrrh or
thyme . . . provide with dry food and noth-
ing green, and rub down with wine and oil.
Let it be covered around the stomach and
especially the chest . . . and the stable ought
to be clean, and in it ought to be strewn
something sweet-smelling: myrtle, bay, or
the like.

ζῶον στρώματι σκεπαζέσθω, τὸ δὲ στάβλον
ἔστω καθαρώτατον, καὶ θυμιάσθω ἢ
σμύρναν ἢ φύλλον δάφνης.

Or administer through the nostrils squill,
and a little birthwort, and frankincense,
and myrrh and thyme mixed in wine. Let
the animal be covered with a blanket, and
let the stable be very clean, and let it be
fumigated either with myrrh or with bay-
leaf.

For the most part, though, Apsyrtus refers to his sources anonymously as οἱ
πρὸ ἡμῶν, τινές, or πολλοί—‘those before us’, ‘some people’, or ‘many’.¹⁰⁰
Who are these authorities? Are they all the same? And why does Apsyrtus not
give their names? It is possible that where Apsyrtus does not approve of a
treatment, the identity of his source is tactfully concealed: for example, τινές
δὲ λέγουσιν . . . ἡμῖν δὲ οὐκ ἀρέσκει ‘some say . . . but it does not please us’;¹⁰¹
καθὼς καὶ οἱ πρὸ ἡμῶν εἶπον. ἡμῖν δὲ οὐκ ἀρέσκει, ‘as those before us said, but
it does not please us’.¹⁰² On the other hand, he may be criticizing an anonym-
ously transmitted text. Björck has suggested that by these designations οἱ πρὸ
ἡμῶν, τινές, or πολλοί Apsyrtus is referring not to Eumelus, but to a compil-
ation of earlier writers.¹⁰³ Certainly the designation ‘those before us’ implies
that Apsyrtus is not referring to his contemporaries; moreover, he implies that
he has consulted them in written form:

ἐν πλησμονῇ καὶ ὠμότητι πολλοῖς γέγραπται βοηθήματα.¹⁰⁴

Remedies for surfeit and indigestion have been written by many.

Similar phrasing is used to describe colic by Columella: *cruditis signa . . .
cruditas et inflatio*.¹⁰⁵ The form of the *Hippiatrica*, which presents in succes-
sion many opinions on the same subject, allows us to speculate about the
identity of the anonymous source or sources criticized by Apsyrtus. For

¹⁰⁰ e.g. M87 = B68.1, *CHG* I p. 264.

¹⁰¹ B9.3–4, *CHG* I p. 55.

¹⁰² *Ibid.*

¹⁰³ ‘Zum *CHG*’, 59.

¹⁰⁴ B98, *CHG* I p. 339.

¹⁰⁵ Col. VI.6.1–3.

example, in the passage on madness (*μανία*), Apsyrtus writes that, although some people recommend confining the horse in a darkened place, he has had no success with this treatment, and does not recommend it:

λέγεται δὲ καὶ ἐν ἡσυχίᾳ δεῖν ἐστάναι αὐτοὺς καὶ ἐν τόπῳ σκοτεινῷ· ὃ ἡμεῖς ποιήσαντες ἐπιτεινομένους ἔσχομεν μᾶλλον καὶ διαφωνοῦντας.¹⁰⁶

It is said that they ought to be made to stand in quiet and in a dark place—having done this, we had them suffer more, and die.

The excerpt from Eumelus which follows in the B recension recommends precisely that treatment: ‘Keep it shut up in a very dark place’ (ἐν τόπῳ σκοτεινότερῳ κατάκλειστον ἔχε).¹⁰⁷ Pelagonius, too, recommends isolation, evidently following upon the same source as Eumelus; the passage is not present in Columella.¹⁰⁸ Hippocrates prescribes the same treatment:¹⁰⁹ Apsyrtus’ λέγεται may therefore refer to received wisdom, conventional practice, or the general consensus rather than to a single specific text. He also uses λέγεται to introduce recommendations of irrational cures which belong in the tradition of Bolus–Democritus, such as the use of sea-turtle blood against epilepsy, or the use of earth from a wheel-track against the bite of a shrew-mouse.¹¹⁰ Similarly, in discussing ‘thinness from an unknown cause’ (ἰσχνότης ἐξ ἀδήλου αἰτίας), Apsyrtus does not name the predecessors whom he criticizes.

ἔστι δὲ οὐκ ἄδηλον τὸ πάθος, ἀλλὰ κατὰ ψύξιν. οἱ πρὸ ἡμῶν δὲ εἶπον ἄδηλον.¹¹¹

The disease is not unclear [in cause], but is due to chill. Those before us said that it was ‘unclear’.

Eumelus uses a similar phrase: ἐὰν δίχα τινὸς ἀνωμαλίας ἰσχνώσεις γένηται ζῴοις,¹¹² but closer parallels appear in a lemma to *Geoponica* XVI περὶ ἀδήλου νόσου¹¹³ and in *Geoponica* XVII: σχεδὸν πάντων τῶν ζώων τὰ πάθη ἄδηλα.¹¹⁴ It is, of course, simplest to suppose that the anonymous passages in Apsyrtus are taken over from Eumelus along with those that are more precisely attributed. But, as Björck has observed, there are not enough similarities between Eumelus and Apsyrtus to indicate that Eumelus was Apsyrtus’ principal source.¹¹⁵

There are other passages in which Apsyrtus’ text coincides with that of the agricultural compilations, and where no surviving text of Eumelus can be

¹⁰⁶ M307 = B101.1, *CHG* I p. 347.

¹⁰⁷ M309 = B101.6, *CHG* I p. 349.

¹⁰⁸ M313 = B101.9, *CHG* I p. 350.

¹⁰⁹ M311, *CHG* II p. 54.

¹¹⁰ M685 = B108.1, *CHG* I p. 369; M694 = B87.1, *CHG* I p. 314; cf. Björck, ‘Zum *CHG*’, 67–8.

¹¹¹ M87 = B68, *CHG* I p. 264.

¹¹² Eum. M88 = B68.4, *CHG* I p. 265 (on thinness, cf. Col. VI.30 *si sanis est macies*; Pel. Lat. 30; Anat. M1066, *CHG* II p. 103 = *Geop.* XVI.3.1).

¹¹³ *Geop.* XVI.12.

¹¹⁴ *Geop.* XVII.14.1 (reading of Marc. 524).

¹¹⁵ ‘Zum *CHG*’, 56–9.

identified as the intermediary. This resemblance is particularly noticeable in passages concerned with breeding, which has led A. Baumstark to conclude that Anatolius used Apsyrtus (along with Julius Africanus),¹¹⁶ and E. A. Fisher to conclude that Apsyrtus used Columella.¹¹⁷ Apsyrtus' description of the ideal characteristics of the donkey should, however, be viewed in the context of other descriptions of ideal form derived from Mago–Cassius Dionysius–Diophanes. An excerpt on dentition is very close to Varro and Columella, as has been pointed out by P.-P. Corsetti, who concludes that all three writers depend on the Mago tradition.¹¹⁸

There are also veterinary remedies in Apsyrtus that coincide with the agricultural writers, but not with what is preserved of Eumelus' text. Apsyrtus' two recommendations for removing leeches by using oil and by fumigating with bugs are present in Anatolius in *Geoponica* XVI and in *Geoponica* XIII.17 in the chapter on pests; they are also, as Björck observed, in Columella and Gargilius Martialis.¹¹⁹

Then, there are instances in which Apsyrtus' text is fuller than that of Eumelus, and coincides with Pelagonius; we have seen this already in the magical treatment for dyspnoia/*suspirium* using hellebore. Another example is the first recipe in the drug appendix, the broth of puppy or chicken repeatedly prescribed by Pelagonius, but only prescribed by Eumelus as chicken broth. Apsyrtus clearly attributes the recipe to his predecessors; unless Eumelus' text as we have it in the *Hippiatrica* has been altered, with all references to puppies consistently removed, it would appear not to be Apsyrtus' source in this case.¹²⁰

In other instances it is difficult to tell whether Apsyrtus is referring to a written or an oral source, since verbs of speaking are used of quotations from written works. His use of tense, which varies, may provide some clues: the perfect, more distant, may indicate that the source is a text:¹²¹

Αὐξάνων δὲ ὁ ἵππιατρὸς εἶπεν δεῖν βάλλειν ῥοὺν Συριακὴν καὶ τὰς κριθὰς φρύγοντα καταρραίνειν τῷ ὄξει, κατὰ βραχὺ ὡς φρύγωνται. ἐὰν γάρ, φησί, μετὰ τὸ φρυγῆναι αὐτὰς καταρράνης, οὐκ ἐσθίει ὁ ἵππος διὰ τὴν ὁσμὴν.¹²²

¹¹⁶ *Lucubrationes syro-graecae*, 405.

¹¹⁷ M80 = B14.2, *CHG I* pp. 78–80; E. A. Fisher, 'Greek Translations of Latin Literature in the Fourth Century A.D.', *Yale Classical Studies*, 27 (1982), 207 ff., without reference to the work of Bücheler, Heinze, Oder, Hempel, or Weiss on the subject.

¹¹⁸ M627 = B95.1, *CHG I* pp. 323–5; P.-P. Corsetti, 'Columelle et les dents du cheval', 9 ff., with reference to Hempel *et al.*

¹¹⁹ *Aps.* M526 = B88.1, *CHG I* p. 317 and M527 = B88.4, *CHG I* p. 319; *Geop.* XVI.19; *Geop.* XIII.17; *Col.* VI.18.2; cf. Björck, 'Zum *CHG*', 68.

¹²⁰ M759 = B129.1, *CHG I* p. 385.

¹²¹ On the implications of different tenses as used in jurists' quotations from legal literature, see Honoré, *Gaius*, pp. xiv ff.

¹²² M103 = B35, *CHG I* p. 192.

Auxanon the horse-doctor said that one ought to administer sumac, and to toast barley and sprinkle it a bit with vinegar at a time while it is being toasted, because if (he says) you sprinkle the grain after you have toasted it, the horse will not eat on account of the smell.

Apsyrtus' use of the imperfect tense in another instance may imply that he is passing on the opinion of a contemporary: τὸ Παρθενίου φάρμακον, ᾧ Δομέτιλλος κεκρήσθαι συνεχῶς διεβεβαιούτο, 'the medicine of Parthenius, which Dometillus always used to affirm that he used'¹²³—unless the reference to Dometillus has been taken, as part of the title of the drug, from some other text.

What is the source of the Latin medical terms in Apsyrtus' text? Many of Apsyrtus' colleagues, to judge by the names of the men to whom his letters are addressed, must have been speakers of Latin; he is likely to have learned some words in the context of army practice, while many were commonly used in spoken Greek. Many words of Latin origin figure in Apsyrtus' text: he uses the 'naturalized' loanwords for titles, as we have seen, as well as for measurements (ξέστης, *sextarius*; ἡμιμόδιον καστρίσιον, *semimodius castrensis*¹²⁴) and other common terms relating to everyday life: στάβλον (*stabulum*, 'stable'), κάπιστρον (*capistrum*, 'halter'), φούρνος (*furnus*, 'oven'),¹²⁵ βούλλα (*bullā*, 'seal'), λάμνα (*lamina*, 'metal leaf'),¹²⁶ λέντιον (*linteum*, 'linen cloth'),¹²⁷ φόσσα (*fossa*, 'ditch').¹²⁸ These are given without explanation; presumably a reader would have been familiar with them (the first three are still used in Modern Greek), and they do not prove that Apsyrtus spoke Latin.¹²⁹ Some Latin medical terms, such as βουλσούς (*vulsus*, suffering convulsions)¹³⁰ and λούμβοι (*lumbi*, loins)¹³¹ appear with no mention of a Greek equivalent: they may have been familiar loanwords as well—the first, indeed, was used by the translator of Pelagonius' treatise into Greek.¹³² One wonders whether the recipe for a μάλαγμα τὸ καλούμενον ἄμβλα μουλα, an ointment called *ambula mula*, 'walk on, mule!' was copied from a drug-collection, or whether Apsyrtus learned how to concoct it in the *veterinae* of the camps.¹³³

¹²³ M839, *CHG* II p. 89.

¹²⁴ M1062 = B130.134, *CHG* I p. 425, cf. Hultsch, *Griechische und römische Metrologie*, 2nd edn. (Berlin, 1882), 94.

¹²⁵ M21, *CHG* I p. 30; M968, *CHG* II p. 93.

¹²⁶ M1026, *CHG* II p. 98.

¹²⁷ M1042,

CHG II p. 100.

¹²⁸ M1044, *CHG* II p. 100.

¹²⁹ See Viscidi, *I prestiti latini nel greco antico e bizantino*, 10 ff. on Latin loanwords for military terminology, measurements, the circus, plants, etc.

¹³⁰ M559, *CHG* II p. 72; cf. Eum. M30 and Pel. 206.

¹³¹ M1046, *CHG* II p. 101.

¹³² M540 = B7.2, *CHG* I p. 45.

¹³³ M835 = B130.13, *CHG* I p. 403.

In other cases, Apsyrtus gives Latin equivalents for Greek medical terms, for example:

περιττώματα δὲ λέγεται, ὃ ῥωμαῖσι καλοῦσι φαλκίνηνα.¹³⁴

they are called excrescences, which in Latin they call *falcinina* [i.e. *farcimina*].

Adams suggests that Apsyrtus may have learned the term *farcimina* for farcy-buds from Latin-speaking *veterinari*.¹³⁵ That three other Latin terms used by Apsyrtus are also found, in quick succession, in Columella's brief chapter on diseases of mules¹³⁶ may suggest Apsyrtus found the Latin words in a written source used also by Columella: this source may have been in Latin, or in Greek with the Latin terms already transliterated.

ἐστὶ δὲ τὸ πάθος, ὃ καλοῦσιν οἱ πολλοὶ μᾶλιν, τινὲς δὲ κατάρρουν, ῥωμαῖσι δὲ σουμπέριον.

It is the disease which most people call glanders, some catarrh, and in Latin *soumperion* [i.e. *suspirium*].

ῥεύματα εἰς τὰ γόνατα ἐμπίπτοντα, ἅτινα ῥωμαῖσι λέγεται φλέμινα...

flux attacking the knees, which in Latin is called *flemina*...

ῥεύματα ἐμπίπτει εἰς τοὺς πόδας, ἃ τινες εἶπαν χίνδρας, ἕτεροι δὲ χίρματα. ἐξ οὗ λέγεται λεπρώσιν οἱ πόδες (λέγεται δὲ ῥωμαῖσι σουφράγινα)...

flux attacks the feet, which some call *chindras*, others *chirmata*, from which it is said that the feet are leprous (in Latin it is called *soufragina*)...¹³⁷

If Apsyrtus used a Latin source directly, or if he knew the language, one would expect accurate renderings of the Latin technical terms; on the whole, the transliterations are fairly close, however, it is difficult to evaluate them, since they may be corrupted through scribal error. *Suffragina* is correctly transliterated as *σουφράγινα* in M, while in B it is slightly altered as *σουφράγενα*; the term is used here to denote a disease, as does Columella's adjectival form *suffraginosae*.¹³⁸ Elsewhere, Apsyrtus uses the term in its conventional sense (in Latin) of 'back of the pastern'.¹³⁹ The passage on *suspirium* is not present in M; in B, the word appears in a simplified form. *Flemina* appears in M and B as *φλέμινα* and in other MSS (of Renaissance date) as *φλιμέλια*.¹⁴⁰ Apsyrtus'

¹³⁴ M71 = B96.3, *CHG* I p. 327. ¹³⁵ *Pelagonius*, 665.

¹³⁶ Col. VI.38.1–3. It is worthy of note that this passage contains Columella's only allusion to medicine being administered through the left nostril.

¹³⁷ B2.1, *CHG* I p. 13; M125 = B51, *CHG* I p. 227; M124 = B52, *CHG* I p. 229.

¹³⁸ Columella also uses *suspiriosae*; on these forms see Adams, *Pelagonius*, 338–40.

¹³⁹ M574 = B36.6, *CHG* I p. 196. See Adams, *Pelagonius*, 408.

¹⁴⁰ *CHG* I p. 227 (apparatus). K.-D. Fischer, 'Φλέμινα und φλιμέλια', *Hermes*, 107 (1975), 495 points out that *flemina* itself is a borrowing from Greek *φλεγμονή*; see also Adams, *Pelagonius*, 243–7. On such complicated relationships see Biville, 'The Graeco-Romans and Graeco-Latin',

account of these diseases is much more detailed than Columella's: this may simply indicate that he adapted his source; however, we have seen in the case of the *suspirium*-passage that Pelagonius and Eumelus too appear to have used a veterinary text independent of Columella containing the Greek and Latin names for the disease.

HUMAN MEDICINE

Borrowings from human medicine are evident in procedures such as splinting and surgery;¹⁴¹ now and then the borrowings are acknowledged. In a letter to a centurion about how to treat wounds in the belly, Apsyrtus introduces his description of the procedure by saying 'it is necessary to suture the peritoneum, in the same manner as that used by doctors on humans' (δεῖ γαστρορραφεῖν τὸ περιτόνιον, ὅνπερ τρόπον οἱ ἱατροὶ ἐν ἀνθρώπῳ).¹⁴² Apsyrtus' instructions for performing these procedures contain technical vocabulary absent from the texts of the agricultural writers, but the same as those used in manuals of human medicine: διαστόλιον 'dilatator' used in treating an ear infection;¹⁴³ πόρπαξ 'fibula' used in the treatment for a dislocated shoulder;¹⁴⁴ σαρκολαβίς 'forceps', in the 'Alexandrian' surgery for strangles;¹⁴⁵ ἀγκτῆρ 'surgical retractor', in the surgery 'as performed on humans' for belly wounds.¹⁴⁶ The names of these are mentioned, but their form is in general not defined, save when Apsyrtus specifies a woollen suture that is not fine-spun (ράμματι ἐρέω κεκλωσμένῳ μὴ λεπτῷ);¹⁴⁷ or, in another case, describes the instrument used for administering an enema: 'let the clyster be a hide made into a bag, having a reed bound into it and waxed, that is put into the sphincter' (ἔστω ὁ κλυστήρ ἀσκίον, κάλαμον ἔχον ἐνδεδεμένον καὶ κεκρηωμένον, τὸ προστιθέμενον τῷ σφιγκτῆρι).¹⁴⁸ Certain remedies are recommended by Apsyrtus for people too, such as a remedy for loss of hair:

100. Apsyrtus' Latin medical terms were also identified by Meursius in his *Glossarium graeco-barbarum*.

¹⁴¹ Björck draws parallels between procedures in Apsyrtus and in texts on human medicine, 'Zum CHG', 71–87.

¹⁴² M150 = B71, CHG I p. 279. ¹⁴³ M114 = B16.2, CHG I p. 89.

¹⁴⁴ B24, CHG I p. 121. ¹⁴⁵ M105 = B20.2, CHG I p. 96.

¹⁴⁶ M150 = B71, CHG I p. 279. See L. Bliquez, 'Two Lists of Greek Surgical Instruments and the State of Surgery in Byzantine Times', *DOP* 38 (1984), 195–204.

¹⁴⁷ M150 = B71, CHG I p. 279. ¹⁴⁸ M633 = B75.1, CHG I p. 287; cf. *AP* XIV.55.

τοῦτο ποιεῖ καὶ ἐπὶ ἀνθρώπων, ἐπὶ ἀνδρῶν τε καὶ γυναικῶν.¹⁴⁹

This works on humans too, on men and women.

DRUG COLLECTIONS

The pharmacological appendix is divided into sections on drenches (ἐγχυματισμοί) to be administered internally, and ointments or poultices (μαλάγματα, ἔμπλαστοι) for external application; within these categories, medicines are identified by their action as purging, desiccative, emollient, etc. Apsyrthus used written sources for this part of his treatise too: he explains his *modus operandi* in the letter which introduces the recipes.

Δέσποτα Κέλερ, τῆς συναφείας ἀπαιτούσης τὴν τῶν φαρμάκων βοήθειαν, ἐπιδειξομέν σοι, ὅσα τε αὐτοὶ καὶ παρὰ τῶν ἄλλων ἐπειράθημεν βοηθήματα τοῖς ἵπποις. ἅτινα γράφοντες, ἀναφέρομεν ἐκείνοις τὴν χάριν, καθότι παρ' αὐτῶν ἐλάβομεν τὴν ἀρχήν, καὶ ὅτι κατὰ ταῦτα ἔγνωμεν. (εἰ δέ τι ἐκείνοι παρέλιπον, ἡμεῖς ἀξιοπιστότερον παραδώσομεν B¹⁵⁰).

Lord Celer, since the circumstances call for the aid of drugs, we shall display for you whatever remedies for horses we have learned ourselves or from others. In writing these things we offer gratitude unto them, since it is from them that we received the first principles, and whatever we learned in accordance with these. <If there is anything that they omitted, we shall transmit it in a more trustworthy way B>

Apsyrthus' method may be compared to Galen's critical presentation of remedies from earlier pharmacological collections.¹⁵¹ Such collections (for humans) have been preserved in papyri; indeed Apsyrthus probably borrowed recipes from human medicine, since his text includes references to recipes that also appear in other authors or collections, such as ὁ Ἀζανίτης 'the one from Azania', ἡ χλωρά 'the green one', ἡ ἐρωμένη 'the beloved one'.¹⁵² Other sources, such as the διφθέρα ἰατρική or 'medical notebook' of Antoninus, or the collections of Aspidius and Amasis,¹⁵³ are more obscure. Apsyrthus, like Galen, emphasizes that he has tested the recipes, and not simply copied them,

¹⁴⁹ M710 = B55, *CHG* I p. 242; also e.g. M210, *CHG* II p. 42; cf. *CHG* II, index VII s.v. ἐπ' ἀνθρώπων. The remedy for hair loss is to rinse with decoction of marshmallow root.

¹⁵⁰ M759 = B129.1, *CHG* I p. 385.

¹⁵¹ On which see the study by C. Fabricius, *Galens Exzerpte aus älteren Pharmakologen* (Berlin and New York, 1972).

¹⁵² M1052 ff. = B130.126 ff., *CHG* I p. 424; cf. I. Andorlini, 'I Papiri e la tradizione medievale nella ricetta dei testi medici tardoantichi', in A. Garzya (ed.), *Tradizione e ecdotica dei testi medici tardoantichi e bizantini* (Naples, 1992), 13–27.

¹⁵³ M237, *CHG* II p. 48; M1030, *CHG* II p. 99; M712, *CHG* II pp. 84–5.

and also that he has added new material: ταῦτα μὲν τοῖς πρὸ ἡμῶν ἐγράφη. ἡμεῖς δὲ ἐχρησάμεθα καὶ τοῦτοις, 'those things were written by our predecessors. We have also used these ...'¹⁵⁴

MAGICAL COLLECTIONS

One spell or *φυσικόν*, a shrew-mouse (*μυγαλή*) applied as an amulet against the bites of others, is present in the B recension;¹⁵⁵ the twenty-one other spells attributed to Apsyrtus exist only in the M recension.¹⁵⁶ The spells, unlike the letters and the pharmacological collection, have no introduction or explanation; it is difficult to tell whether they were gathered into a separate volume or simply included along with 'rational' remedies in the same treatise. Some are prescribed with great specificity: the longest series, nine spells, comes under the heading of glanders;¹⁵⁷ there is one against dysury, a few for the hoof, one against *βασκοσύνη*, affliction by the evil eye. There is nothing original about them: they are examples of a genre as well-developed as medicine. Elements of simple sympathetic magic and exorcism are present in Eumelus' text and those of the agricultural writers, but the spells given by Apsyrtus are of a complexity that points to a specialized written tradition as their source, 'sentant le grimoire professionnel', as Björck observes.¹⁵⁸ Apsyrtus must have had access to a collection along the lines of those in the so-called magical papyri; which present many parallels of content and form with his spells.¹⁵⁹ The diversity of the spells preserved in M leads one to suppose that there might originally have been more magic in Apsyrtus' treatise.

The use of magic was especially common in the context of healing, of agriculture, and around horses.¹⁶⁰ Apsyrtus' recommendation of magical treatments for healing is hardly surprising, and reflects the beliefs and practices of his day as vividly as does the medical material in his treatise. The same

¹⁵⁴ M759 = B129.2, *CHG* I p. 385.

¹⁵⁵ M694 = B87.1, *CHG* I p. 314.

¹⁵⁶ Heim, *Incantamenta*, nos. 13, 43–5, 65, 75, 90, 115, 135, 170, 205–14, 241; cf. Björck, 'Apsyrtus', 55 ff.

¹⁵⁷ M17–26, *CHG* II pp. 30–1.

¹⁵⁸ 'Apsyrtus', 60.

¹⁵⁹ See *PGM* and commentary in H.-D. Betz (ed.), *The Greek Magical Papyri in Translation* (Chicago, 1992); also K. Preisendanz 'Überlieferungsgeschichte der spätantiken Magie', *Aus der Welt des Buches* (Leipzig, 1950), 223–40.

¹⁶⁰ Hippodrome magic: *Cod. Theod.* IX.16.11; curse-tablets used against horses: A. Audollent, *Defixionum Tabellae* (Paris, 1904). On curse-tablets and magical practices at the hippodromes of Carthage, Hadrumetum, Antioch, and Beirut, see Humphrey, *Roman Circuses*. Also see M. W. Dickie, *Magic and Magicians in the Greco-Roman World* (London, 2001), 293 ff., and, on healing magic, G. Vikan, 'Art, Medicine, and Magic in Early Byzantium', *DOP* 38 (1984), 65–86.

association of rational and irrational treatments is present in the *Kestoi* of Julius Africanus. Apsyrtus' spells are a combination of apotropaic formulas, to be inscribed on a scrap of material and fastened to the animal as amulets (περίαπτα); and incantations to be recited over the animal (ἐπαοιδαί).¹⁶¹ The spells, as we see from R. Heim's catalogue, provide examples of most of the conventional categories: *evocationes morborum*, threats, sympathetic magic, *historiolae*, binding spells.¹⁶² Apsyrtus gives instructions for making amulets to be written on scraps of paper, parchment, or metal; these are affixed (the verb used, περιάπτω, is, as we have seen, a technical term) to the halter of the horse, or to the affected part. 'Sacred names' invoked in the spells, and the nonsensical syllables (ἐφέσια γράμματα) which also feature in them, are what C. Bonner calls an 'international magic', one whose vocabulary echoes Egyptian, Hebrew, or Aramaic forms;¹⁶³ they have parallels in incantations and amulets from a variety of sources.

Πρὸς ποδάγραν

ταῦτα δ' ὀνόματα εἰς πέταλον κασσιτέρινον γράψεις ἐν γραφίῳ μὴ ἔχοντι τὸ λειοῦν, καὶ ἡμέρα ἡλίου τὸν πόδα δῆσον ὃν πονεῖ, καὶ πάλιν μετὰ ἡμέρας λς, ἥτις γίνεται λς ἡμέρα ἡμέρα ἡλίου (λύε). τὰ δὲ γραφόμενα ταῦτα: χεντιμα τεφήκεν τέφρα, γλύκαινε.¹⁶⁴

For *podagra*:

Inscribe these names on a plate of tin with a stylus that has no eraser, and on a Sunday attach it to the foot that is hurting, and again after 36 days, on the 36th day which is a Sunday (untie it). These are the things to be written: CHENTIMA TEPHEKEN TEPHRA [or, 'ash'], sweeten.

The Egyptian name for the day of the week may indicate an Egyptian origin for the spell, or simply a pagan one.¹⁶⁵ That this particular formula was in fact used is confirmed by the existence of a gold lamella found in Brindisi, inscribed with the same formula:

XENTEMMA
TEΦPEIXEN
TEΦPAIΣ[.
BAY[. . . .¹⁶⁶

¹⁶¹ R. Kotansky, 'Incantations and Prayers for Salvation on Inscribed Greek Amulets', in C. A. Faraone and D. Obbink (eds.), *Magika Hiera: Ancient Greek Magic and Religion* (Oxford and New York, 1991), 107–37.

¹⁶² C. Bonner, *Studies in Magical Amulets Chiefly Graeco-Egyptian* (Ann Arbor, 1950), 7.

¹⁶³ M440, *CHG* II p. 63; Heim, *Incantamenta*, 213.

¹⁶⁴ Grumel, *La chronologie*, 165.

¹⁶⁵ Kotansky, 'Incantations and Prayers', in Faraone and Obbink, 118.

The words have been interpreted as Egyptian.¹⁶⁷ That this amulet was made of a precious material may suggest that it was intended for a person rather than a horse; amulets and spells against podagra (gout in humans) are common.¹⁶⁸ Apsyrtus gives instructions for amulets of less precious materials, papyrus or tin.¹⁶⁹ Another amulet is an example of the syncretism of this magic:¹⁷⁰

Ἀψύρτου δῶρον ἀγαθόν, σωτήριον, θαυμαστόν καὶ πρὸς κτήνη ἐνεργόν.

Ἰαω Ἰαη, ἐπ' ὀνόματος πατρὸς καὶ κυρίου ἡμῶν Ἰησοῦ Χριστοῦ καὶ πνεύματος ἁγίου, ἱριτερλιεσταθερ, νοχθαι βρασας, σαλωλάμ ναρκαζεω μάζα αρεους δαρουχαραήλ ἀβλαναθάλ βαθιακεθ δρυθ' τουμαλαθ' πουμαδοιν χθου χθου, λιτιοταν μαζαβατης μανερ ὀψαχιου ἀβλαναθαληβα Ἰαω Ἰαη ἐπ' ὀνόματος πατρὸς καὶ τοῦ κυρίου ἡμῶν Ἰησοῦ Χριστοῦ καὶ τοῦ ἁγίου πνεύματος.

καὶ γράψον αὐτὰ ἐν χαλκῷ γραφείῳ ἐν λάμνῃ καθαρᾷ κασσιτερίνῃ ἀπὸ βούλλας, καὶ ἐνδήσας ἐν δέρματι στυπτῷ, ὅποι ἂν θέλῃς, περιάψεις. τὴν δὲ λάμναν γράψας θυμία στυράκι.

Apsyrtus' beneficial, preserving, and wondrous gift, effective for beasts

Iao, Iae, in the name of the Father and of our Lord Jesus Christ and of the Holy Spirit, IRITERLIESTATHER, NOCHTHAI BRASAX, SALOLAM NARKAZEO MAZA AREOUS DAROUCHARAEL ABLANATHAL BATHIAKETH DRYTH TOUMALATH POUMADOIN CHTHOU CHTHOU LITIOTAN MAZABATES MANER OPSACHIOU ABLANATHALEBA IAO IAE in the name of the Father and of our Lord Jesus Christ and of the Holy Spirit.

Inscribe this with a bronze stylus on a clean tin strip from a seal, and wrapping it in waterproof leather, affix it wherever you wish. Having inscribed the strip, cense it with storax.

Here Ἰαω or Jahweh appears as a 'sacred name' side by side with Christ and other sacred names of various origins:¹⁷¹ *Βρασας* is evidently related to *abrasax*, another, more obscure 'name of power' whose power lies in the fact that the sum of its seven letters is 365, the number of days in a solar year,¹⁷² while *ἀβλαναθάλ* and *ἀβλαναθάληβα* are corruptions of the palindrome *ablanathanalba*.¹⁷³

¹⁶⁷ See G. Zuntz, *Persephone: Three Essays on Religion and Thought in Magna Graecia* (Oxford, 1971), 283.

¹⁶⁸ e.g. Alexander of Tralles, ed. Puschmann, II p. 583 (Heim, *Incantamenta*, no. 204); other examples in Kotansky, 'Incantations and Prayers', in Faraone and Obbink, n. 84, p. 134.

¹⁶⁹ Spells to be written on papyrus, ἐν χάρτῃ: M17 and M21, *CHG* II p. 30.

¹⁷⁰ M1026, *CHG* II p. 98; Heim 214.

¹⁷¹ Bonner, *Studies in Magical Amulets*, 30. Cf. Alexander of Tralles, ed. Puschmann, II p. 585: ὀρκίζω σε τὸ ὄνομα τὸ μέγα Ἰαὼθ Σαβαὼθ... ὀρκίζω σε κατὰ τῶν ἁγίων ὀνομάτων Ἰαὼθ Σαβαὼθ Ἀδωναὶ Ἐλωί. 'I conjure thee the great name Iaoth Sabaoth... I conjure thee by the holy names Iaoth Sabaoth Adonai Eloī.' F. Dornseiff, *Das Alphabet in Mystik und Magie*, 2nd edn. (Leipzig and Berlin, 1925), 39–40.

¹⁷² Bonner, *Studies in Magical Amulets*, 12, 30; Betz, *The Greek Magical Papyri in Translation*, 331; Dornseiff, *Das Alphabet*, 42–3.

¹⁷³ On which see D. M. Robinson, 'A Magical Text from Beroea in Macedonia', in L. W. Jones (ed.), *Classical and Mediaeval Studies in Honor of Edward Kennard Rand* (New York, 1938), 250–1.

Even apparently nonsensical words are conventional, such as the so-called ‘borphor’ syllables in another prescription:

Πρὸς μάλιν σπουδαῖον.

*Βάρβαρος, βαρβαρίζουσα, ζαβαχωρα, βαρβαρων πυρι, πυριτουμόλε, σῶζε τὸν φοροῦντα.*¹⁷⁴

For glanders, a good one.

BARBAROS, BARBARIZOUSA, ZABACHORA, BARBARON PYRI, PYRITOU MOLE, preserve the wearer.

The ‘borphor’ sounds seem to be associated with the Egyptian god Typho-Seth, who in turn is associated with donkeys; it is thus appropriate that they are used on an amulet for equids.¹⁷⁵ *Πυρι* may be an approximation of P’re, the name of the Egyptian god of the sun.¹⁷⁶

An exorcism refers to the horse’s mythical origins in the sea; the odd numbers three and seven are also significant. Blowing or spitting is a common element of magical ritual; we have seen it in Eumelus.

προσφυσῶν λέγε·

φεύγε οἶν, κακὴ μάλι, διώκει σε Ποσειδών, καὶ ταῦτα·

*τρὶς ἑπτὰ θαλάσσια ζῶα, ζ’ ἄρκοι, ἑπτὰλέοντες, ἑπτὰ δελφίνοι ἐδίωκον τὴν ἀγρίαν μάλιν.*¹⁷⁷

Blowing on it, recite:

Flee, then, evil glanders, Poseidon pursues you!

And this:

Three times seven sea-creatures, 7 bears, seven lions, seven dolphins pursued the savage glanders.

The *φεύγε* formula used against disease, as well as sets of seven lions and bears, are found in consecutive spells in the so-called Philinna papyrus (first century BC).¹⁷⁸

¹⁷⁴ M23, CHG II p. 31; Heim 208.

¹⁷⁵ See D. R. Jordan, ‘Defixiones from a Well near the Southwest Corner of the Athenian Agora’, *Hesperia*, 64 (1985), 240–1, where this passage is cited.

¹⁷⁶ Betz, *The Greek Magical Papyri*, 338.

¹⁷⁷ M22 = CHG II p. 31; Heim, *Incantamenta*, 65. For other examples of *evocationes morborum* with this phrasing, see Heim, pp. 479–82 Compare e.g. no. 47, p. 480, from Alexander of Tralles, ed. Puschmann, II p. 377: it is a charm against colic, to be inscribed on a ring: *φεύγε φεύγ’ ἰοῦ χολή, ὁ κορυδαλὸς σε ζητεῖ*, ‘Flee, flee, bile; the skylark is seeking you.’

¹⁷⁸ The similarity to Apsyrtus’ spell noted by P. Maas, ‘The Philinna Papyrus’, *JHS* 62 (1942), 37. See also L. Koenen, ‘Der brennende Horusknahe. Zu einem Zauberspruch des Philinna-Papyrus’, *Chronique d’Égypte*, 73 (1962), 167–74.

Σύρας <Γ>αδαρηνῆς [ἐπαοιδῇ] πρὸς πᾶν κατάκαυμα.
 ἑπτὰ λύκων κρήνας, ἑπτὰ ἄρκτων, ἑπτὰ λεόντων
 ἑπτὰ δὲ παρθενικαὶ κυανώπιδες ἤρυσαν ὕδωρ κάλπισι κυανέαις
 καὶ ἔσβεσαν ἀκάματον πῦρ.

Φιλίννης Θε[σσ]αλῆς ἐπαοιδῇ π[ρὸς] κεφαλῆς π[ό]νον
 φεύγ' ὀδύνῃ κεφαλῆς· φεύγει δὲ [λέων] ὑπὸ πέτρᾳ, φεύγουσιν δὲ λύκοι,
 φεύγουσι δὲ μώνυχες ἵπποι . . .¹⁷⁹

Of the Syrian woman of Gadara, for any inflammation
 seven springs of wolves, seven of bears, seven of lions, but seven dark-eyed maidens
 with dark urns drew water and becalmed the restless fire

The charm of the Thessalian Philinna, [for] headache:
 Flee, headache, [lion] flees beneath a rock,
 Wolves flee; horses flee on uncloven hoof . . .¹⁸⁰

Other irrational treatments involve symbolic procedures, for example, numerology is combined with sympathetic magic in a binding spell which involves knotting a rope three times, binding it around the affected part, and then cutting it with a knife.¹⁸¹

The diverse cultural influences in Apsyrtus' world are reflected by the fact that in one spell the Greek god Poseidon is invoked against glanders, while elsewhere the disease is denounced as Hellenic, that is, pagan:

μᾶλι ἀρθριτ', ἀρθριτική, κωφή, Ἑλληνική¹⁸²
 arthrit-arthritic, senseless, godless glanders

Similar ambiguity appears in a remedy for abrasion of the foot (θλάσμα): Apsyrtus recommends two spells to be inscribed, in this case, on the horn of the hoof. These give a choice between the name of the horse's master or a formula which, appearing in the manuscript as ἰλὼψ ἰχθὺς νῆσος, is resolved by the editors to ΙΑΩ ☒ ΙΧΘΥC ΙΗCΟΥC, that is, ΙΑΩ, a christogram, the Christian acronym ΙΧΤΗΥC, and the name Jesus.¹⁸³ The amuletic use of the christogram by a soldier in the late third or early fourth century is worthy of note. In another amulet (for use against dysury), Semitic names disintegrate into their component letters;¹⁸⁴ these ἐφέσια γράμματα are combined with sympathetic magic in the image of flowing water:

¹⁷⁹ PGM XX, ed. Preisendanz, vol. II p. 145; restoration of missing text *ibid.*, p. 265; for additional examples of the 'flee, flee' formula see Heim, *Incantamenta*, nos. 56–68; Kotansky, 'Incantations and Prayers', in Faraone and Obbink, 112–13.

¹⁸⁰ Tr. E. N. O'Neil, in Betz, *The Greek Magical Papyri in Translation*, 258–9.

¹⁸¹ M202, CHG II p. 41; Heim 75.

¹⁸² M19, CHG II p. 30; Heim, no. 43, p. 477.

¹⁸³ M201–2, CHG II p. 41; Heim 241.

¹⁸⁴ See Dornseiff, *Das Alphabet*, 60–1.

Γράψε καὶ περῖαπτε θεοῦ ἐπὶ κλήσιν ἐπικαλούμενος βαρναβαὰθ θ θ καὶ σεχθαβαγγγα. ἐπικαλοῦμαι καὶ θεὸν Ἀβραὰμ μμμ. λύσον φλέβας σὺν δυσουρία καὶ ῥεύσον ὡς ὁ Νεῖλος ποταμὸς ὑπὸ μηδενὸς κατεχόμενος.¹⁸⁵

Inscribe and affix the invocation of the god, conjuring BARNABATH TH TH and SECHTHABANGGGGA. I also invoke the god ABRAHAM MMM. Loose the veins with the dysury and flow like the river Nile, by no one constrained.

Apsyrtus' spells, used for healing, represent a benign magic. But in their vocabulary and in format they are related to curse tablets, especially those associated with the milieu of the hippodrome.¹⁸⁶ These inscribed shells or strips of metal bear vivid and vicious invocations—*cadat vertat frangat*, 'may it fall! may it twist! may it break!' or ἔκκοψον ἐκνεύρωσον ἐξάρθρωσον 'cut to pieces! cut sinews! cut joints!'—directed against horses (identified by name and by faction) and against their charioteers.¹⁸⁷ The lists are punctuated by the same cacophonous nonsense-words, the same cryptic alphabets or numerology and deformed sacred names—καβρακκρακκρου, καρουραχχθαι, βραχχθαθ, ΚΚΚ ΑΑΑ ΛΛΛ¹⁸⁸ (ΚΑΒΡΑΚΚΡΑΚΚΡΟΥ, ΚΑΡΟΥΡΑΧΧΘΑΙ, ΒΡΑΧΧΘΑΘ, ΚΚΚ ΑΑΑ ΛΛΛ)¹⁸⁸ (ΚΑΒΡΑΚΚΡΑΚΚΡΟΥ, ΚΑΡΟΥΡΑΧΧΘΑΙ, ΒΡΑΧΧΘΑΘ, ΚΚΚ ΑΑΑ ΛΛΛ)¹⁸⁸—but with an unnerving vehemence of sentiment.

The threat of malediction was not limited to the racing-stables: concern about the evil eye was universal.¹⁸⁹ In a letter written to a Roman cavalryman in upper Egypt around the middle of the second century, the wish that his horse be ἀβάσκαντος, safe from curse, is expressed twice, both in the greeting and in the closing salutation:¹⁹⁰

Πούπλις Α[...].ω[ι]τῶι νίῳ πλείστα χαίρειν καὶ διὰ παντὸς ὑγιαίνειν μετὰ τοῦ ἀβασκάντου σου ἵππου.

[...]

ἐρρῶσαι σε εὖχομαι μετὰ τοῦ ἀβασκάντου σου ἵππου.

Publius to his son Α[...], many greetings and [hope] that you and your horse (safe from the evil eye), are thoroughly well

[...]

I pray that you be well, along with your horse (safe from the evil eye).

¹⁸⁵ M62, *CHG* II p. 36; Heim 90 and 212.

¹⁸⁶ Tablets from Carthage and Hadrumentum, Audollent, *Defixionum Tabellae*, pp. xciv, 304–34, 385 ff. Charioteers who engaged in this sort of practice were to suffer the most severe penalties: *Cod. Theod.* IX.16.11.

¹⁸⁷ See Audollent's index III, *Nomina defixorum equorum*, pp. 454–60.

¹⁸⁸ *Defixionum Tabellae*, 307 and 382.

¹⁸⁹ See M. Dickie, 'The Fathers of the Church and the Evil Eye', in H. Maguire (ed.), *Byzantine Magic* (Washington, DC, 1995), 9–34.

¹⁹⁰ Bagnall, *The Florida Ostraka*, no. 15, p. 54; the same wish appears in no. 18, p. 58. For the date, see pp. 3–4.

Since the evil eye was obviously a real concern, and since horses were precious, it is hardly surprising to find Apsyrtus prescribing the following exorcism:¹⁹¹

Ἀψύρτου πρὸς βασκοσύνην.

Βαῖνε, νεμεσῶθ' ἔξελεθε, ἀπόσθηθι ἀπὸ τοῦ περιηπτομένου ἵππου, οὐδ' ἔτεκεν ἡ ἰδία μήτρα, βασκοσύνη, ὅσον γῆ ἀπέχει οὐρανοῦ.¹⁹²

Of Apsyrtus against the evil eye

Leave, NEMESOTH. Depart, evil eye, stay away from the horse to which [an amulet] is affixed, which its own womb bore—as far as the earth is distant from the sky.

EXPERIENCE

Apsyrtus refers to the writings of his predecessors with reverence:

ταῦτα μὲν οὖν ἐκείνοις εἴρηται μεγάλοις ἀνδράσιν . . .

These things have been said by those great men . . .

ἵνα δὲ μὴ δόξωμεν τῶν πρὸ ἡμῶν μεγάλων ἀνδρῶν ἐκβάλλειν τοὺς ἀφορισμούς.¹⁹³

So that we do not seem to discard the definitions/aphorisms of the great men who went before us

At the same time, he constantly contrasts them with his own experience: 'an ointment, which we have used', 'but we use these remedies' (μάλαγμα, ᾧ ἐχρησάμεθα ἡμεῖς,¹⁹⁴ ἡμεῖς δὲ ἐχρησάμεθα βοηθήμασι).¹⁹⁵ And he is not reluctant to take credit for a new discovery:

μηδεὶς λέγετω, ὅτι οἱ πρὸ ἡμῶν ἐχρήσαντο· παρήλθεν γὰρ αὐτοὺς τοῦτο.¹⁹⁶

Let no one say that those before us used this, for this escaped them

τὰ πάθη τῆς δυσουρίας, ἃ οὐδενὶ γέγραπται¹⁹⁷

The diseases of dysuria, which are not written about by anyone.

¹⁹¹ See L. Robert, *Hellenica: Recueil d'épigraphie, de numismatique, et d'antiquités grecques*, X (Paris, 1955), 33 nn. 1–2 for *proskynemata* made on behalf of horses, and the following salutations in letters: ἄσπασαι πολλὰ τὴν ἀγαθὴν σου συμβίον καὶ Ἰουλίαν καὶ τὸν ἵππον (= P. Oxy. XIV, 1772); ἀσπάζετέ σοι λίαν λίαν καὶ τὴν γυναιῖκαν σοι καὶ τὴν θυγατέραν σοι [καὶ] Βάσσαν τὸν ἵππον σοι (sic) (= H. C. Youtie and J. G. Winter (eds.), *Papyri and Ostraca from Karanis*, II (Michigan Pap. VIII; Ann Arbor, 1951), 182).

¹⁹² M979, CHG II p. 94; Heim 45.

¹⁹⁴ M824 = B130.3, CHG I p. 401.

¹⁹⁶ M316 = B34.4, CHG I p. 180.

¹⁹³ M316 = B34.5, CHG I pp. 180–1.

¹⁹⁵ M569 = B46, CHG I p. 220.

¹⁹⁷ M59 = B33, CHG I p. 166.

This interaction of 'book-learning' and experience is clearly illustrated in the letter on χοιράδες or strangles.¹⁹⁸ Apsyrtus begins with a survey of the literature:

πολλοὶ συνετάξαντο βοηθήματα πολλὰ ἀδύνατα καὶ ἀνωφελή. λέγουσι γάρ...

Many people have prescribed many cures that are weak and worthless. They say...

He enumerates a number of treatments attributed to anonymous authorities (οἱ μὲν, τινές, ἔτεροι, and ἄλλοι),¹⁹⁹ then recommends the 'best treatment' (ἀρίστη θεραπεία), one that is practised by the Alexandrians. His account of this surgery appears to be drawn from experience: in addition to a description of the procedure, it includes telling asides such as 'If there is haemorrhaging while surgery is being performed, do not fear, for there is no danger' (αἱμορραγία δὲ ἐὰν γένηται χειριζομένου, μὴ εὐλαβεῖσθαι, οὐκ ἔχει γὰρ κίνδυνον).²⁰⁰ Finally, he adds from his own experience the Sarmatian practice of gelding colts early to avoid strangles.

Many elements in the text reflect Apsyrtus' experience in the army: he describes chest-wounds from metal blades,²⁰¹ falls into deep ditches such as might occur in the camps (ἐν ταῖς παρεμβολαῖς; camps were usually surrounded by a rampart and ditch, and earthworks were also part of larger-scale defences such as those on the Danube frontier),²⁰² and how to prevent injury during the schooling of a cavalry-horse.²⁰³ These excerpts are without parallel in the texts belonging to the agricultural tradition, Columella, Anatolius, and Eumelus.

APSYRTUS AND THE SARMATIANS

Perhaps the most intriguing source of information mentioned by Apsyrtus is his contact with the Sarmatians (Roxolani?), nomadic tribesmen who inhabited the regions north and west of the Black Sea. The Sarmatians, including women, were renowned for their horsemanship: Ammianus Marcellinus, for example, mentions that they usually rode geldings, and that these were swift and obedient.²⁰⁴ This information is confirmed by Apsyrtus, who observes that τὸ Σαρματικὸν γένος ... δρομικόν, 'the Sarmatian breed is swift',²⁰⁵ and

¹⁹⁸ M105 = B20.1, *CHG I* pp. 95–7.

¹⁹⁹ Similar to Eum. M107 = B16.4, p. 90.

²⁰⁰ M105 = B20.2, *CHG I* pp. 95–7.

²⁰¹ M150 = B71, *CHG I* pp. 279–80.

²⁰² M751 = B72, *CHG I* pp. 280–1.

²⁰³ B116 (with additions from M), *CHG I* pp. 375–6.

²⁰⁴ 17.12.1–3. References in earlier authors collected in K. Kretschmer, 'Sarmatae', *RE* II.2.5 (Stuttgart, 1920), cols. 2542–50. Pliny gives a Sarmatian remedy for stallions in *NH* XXIV.98.

²⁰⁵ B115, *CHG I* p. 373. E. H. Minns comments on the 'Scythian' breed on the basis of their depiction in art: *Scythians and Greeks: A Survey of Ancient History and Archaeology on the North Coast of the Euxine from the Danube to the Caucasus* (Cambridge, 1913), 288–9.

furthermore describes the Sarmatian practice of castrating newborn colts; it is a precaution, he says, against strangles.²⁰⁶ Apsyrtus provides a few more details, observed with a professional's eye, about the practices of these enigmatic horsemen: an account of a treatment for dysuria that he learned from the Sarmatians (ἐγγνων δὲ ἐγὼ καὶ τοῦτο παρὰ Σαρμάταις) which involves covering the horse with a blanket and fumigating under its belly with castor; the means by which a young mare who rejects her foal out of fear is persuaded to nurse it; the fact that nasal polyps are endemic in Sarmatian regions, ἐν τοῖς κατὰ Σαρματίαν τόποις.²⁰⁷ Perhaps the interaction of Romans and barbarians at the frontier was not all hostile, but involved a certain amount of exchange of information.²⁰⁸ Apsyrtus may also have encountered Sarmatians who served in the army; but since he refers to the tribesmen collectively rather than as individuals, it is difficult to tell what sort of relationship he had with them, and how communication took place. A shared interest in horses may have provided common ground. But he seems to have learned at least one useful medical word in their language, the name for the healing plant marsh-mallow:

λέγεται μὲν ἀλθαία, ὑπὸ τινῶν δὲ μολόχη, Ῥωμαῖστί δ' ἔβισκος, παρὰ Σαρμάταις δὲ καὶ Γέταις καὶ Θρηξίν ἄρισπις . . . ἡ μὲν οὖν ἀλθαία οὐ ραδίως εὐρίσκεται, φνομένη ἐν τοῖς τῆς Ἀσίας τόποις ἢ Σικελίας πανταχοῦ. εὐρίσκεται δὲ ἐν τῇ Σμύρνῃ ἐν τῷ Μέλῃτι ποταμῷ.²⁰⁹

It is called *althaia*, by some *moloche*, in Latin *ebiskos* [*hibiscus*], and by the Sarmatians and Getae and Thracians *arispis*. . . marsh-mallow is not easily found; it grows in the region of Asia and everywhere in Sicily. It is found in Smyrna, too, by the river Meles.

It is worth dwelling for a moment on this excerpt. It reveals Apsyrtus' familiarity with the format of herbals, which provide not only a description of the plant's habitat and its therapeutic value, but often also lists of the names by which it is known. The first three synonyms, two Greek and one Latin, are present already in the earliest text of Dioscorides;²¹⁰ the Sarmatian word is not

²⁰⁶ M105 = B20.5, *CHG* I p. 97. Strangles affects primarily young animals: *Merck Veterinary Manual*, pp. 721–2. According to Strabo, the Sarmatians gelded their horses to make them docile, the Sarmatian breed being very fast but unruly; ed. Meineke, 312, p. 429.

²⁰⁷ M59 = B33.8, *CHG* I pp. 168–9; M532, *CHG* II p. 70; M552 = B21.2, *CHG* I p. 102.

²⁰⁸ It is not too hard to imagine that the adoption of the stirrup took place in this sort of context.

²⁰⁹ M225, *CHG* II p. 45. Apsyrtus' description of the word as Sarmatian and Getic recalls Ovid's statement (*Tristia* 5.12.50) that he learned 'the language of the Sarmatians and Getae', discussed by J. Harmatta, *Studies on the History of the Sarmatians* (Budapest, 1950), 19. The morphology of the word rings true: for examples of Sarmatian names containing ar- and -sp- in other literary sources and in Greek inscriptions from South Russia, see Harmatta, *Studies in the History and Language of the Sarmatians* (Széged, 1970), 66 ff. (no mention of Apsyrtus' evidence).

²¹⁰ Diosc., ed. Wellmann, III. 146.

in any recension of the *De materia medica*. By adding it, however, Apsyrtus is following the standard practice of giving regional names for plants.²¹¹ Even though it is in strictly conventional form, this passage of technical prose evokes what seems to be Apsyrtus' personal memory of collecting the healing plant on the banks of the Meles, and later searching for the same plant, perhaps with the help of a barbarian acquaintance, on the marshy banks of the Danube.

²¹¹ On the synonyms, their sources, and their incorporation into different recensions of Dioscorides' text, see M. Wellman, 'Die Pflanzennamen bei Dioskurides', 360–422. Sarmatians do not figure among the usual sources of the synonyms in Dioscorides.

Pelagonius

PELAGONIUS' treatise, composed in Latin, nevertheless belongs to the same tradition as the Greek sources of the *Hippiatrica*. It has been observed that Pelagonius' work is 'the first Latin treatise on horse medicine', that is, the first specialized treatise devoted to the subject outside of the context of a more general work on agriculture.¹ To refer to him as the first, however, implies a certain amount of originality, a quality which one is hard-pressed to recognize in the text. Pelagonius is dependent upon other writers not only for the content of his treatise, which is a patchwork of quotations, but even for its epistolary form, which is imitated from Apsyrtus. Originality, however, was not a consideration in the transmission of antique scientific texts, and Pelagonius' work was considered useful or interesting enough to be translated into Greek. Moreover, despite its obvious dependence upon Apsyrtus' treatise, the translation was incorporated, alongside Apsyrtus and other very similar texts such as those of Eumelus and Hierocles, into the Greek veterinary compilation. The Greek version of Pelagonius, inaccurate in many places, is considered of secondary value for establishing the Latin text; nevertheless it is interesting in itself as a specimen of Late Antique translation.

PELAGONIUS' TEXT

The Latin text of Pelagonius is preserved in three manuscripts. The best-known witness to the text is Florence, *Riccardianus* 1179 (R), the copy made 'de codice sanequam vetusto' by Politian in December 1485.² In his subscription to the text, the humanist is characteristically careful to explain that he has checked that none of the readings in the damaged manuscript have been

¹ Fischer, 'The First Latin Treatise on Horse Medicine and its Author Pelagonius Saloninus', 215–26.

² Politian's note given in the preface to Fischer's edition *Pelagonius, Ars Veterinaria* (Leipzig, 1980), pp. ix–x; also in N. G. Wilson and L. D. Reynolds, *Scribes and Scholars*, 3rd edn. (Oxford, 1991), 145–6.

altered. This copy provided the basis for the earliest editions of the text, those of Sarchiani, von Eichenfeld, and Ihm.³ Four folia from Bobbio, now in Naples, and dated to the sixth century, were used as additional evidence by K.-D. Fischer in his Teubner edition of 1980.⁴ The form of the Latin text in R, in which there are duplications, missing headings, and a number of apparently interpolated lemmata attributing material to Pelagonius, has led Fischer to propose that it is a reconstitution (along the lines of the text of Hierocles in RV) of Pelagonius from excerpts that were made for one or more otherwise unknown compilations.⁵ Recently a neglected manuscript of Pelagonius, Einsiedeln, Stiftsbibl. 305 (504), of the eighth or ninth century (E), was brought to light by P.-P. Corsetti. In it is a text of Pelagonius substantially different from that in the two other copies.⁶ J. N. Adams has demonstrated that the text of the E is closer to Vegetius than to R; the Greek translation, on the other hand, appears to be related to R.⁷ In spite of such evidence of repeated reworking, distinctively 'Pelagonian' features of style may be readily distinguished in the text;⁸ the Greek text provides some corroboration of these features.

The Greek version of the treatise figures prominently in the *Hippiatrica*. The *pinax* of M indicates that 385 excerpts from Pelagonius were originally present in the manuscript, out of a total of 1223; Apsyrtus, by way of comparison, contributed 372 excerpts. (Most of the excerpts from Pelagonius, however, are short recipes; Apsyrtus in fact provides a greater proportion of the text.) The end of M is mutilated, and only 369 Pelagonius excerpts are now present in the manuscript. Of these some 290 are present in B; in B are also 40 excerpts that do not appear in M. Anonymous passages throughout B are indicated in the Teubner edition. Fifteen excerpts from Pelagonius appear only in C; there are none in RV.⁹ From the *Hippiatrica* may be recovered some 70 per cent of the Latin text, as well as fragments not preserved in Latin.¹⁰

Not long after it was composed, Pelagonius' treatise was used as a source for the *Mulomedicina* of Vegetius. Vegetius, conventionally identified with the Publius Vegetius Renatus who compiled *De re militari* (late fourth or early

³ See Fischer, 'Pelagonius on Horse Medicine', *Papers of the Liverpool Latin Seminar*, 3 (1981), 285–6.

⁴ *Pelagonius, Ars Veterinaria*, pp. x–xi.

⁵ *Ibid.*, pp. xi ff. and diagram p. xxv.

⁶ 'Un nouveau témoin de l'*Ars veterinaria* de Pelagonius', 31–56.

⁷ Adams, *Pelagonius*, 171 ff.; *idem*, 'Notes on the Text, Language, and Content of Some New Fragments of Pelagonius'.

⁸ Adams, *Pelagonius*, 202.

⁹ Excerpts from Pel. in the *Hippiatrica* are listed in Fischer's edn., pp. 145 ff.

¹⁰ Fischer's estimate, 'Pelagonius on Horse Medicine', 295.

fifth century), draws extensively from Pelagonius, yet gives the text, as we have seen, a mixed review:

proxima aetate et Pelagonio non defuerit et Columellae abundaverit dicendi facultas...

In recent times the ability to write was not entirely lacking in Pelagonius and was abundant in Columella.

Verum... [Pelagonius] omissis signis causisque morborum, quasi ad doctissimos scriberet, tam magnae rei fundamenta neglexerit.¹¹

[Pelagonius], omitting the symptoms and causes of diseases, as though he were writing for very learned men, neglected the basic principles of the science,

As this comment suggests, Vegetius was an amateur, not a horse-doctor; his superficial criticism of Pelagonius (and other sources) is probably a conventional excuse for the composition of a new treatise.

PELAGONIUS' DATE AND IDENTITY

Pelagonius wrote after Apsyrus and not long before Vegetius; the treatise is impossible to date with more precision, but is conventionally assumed to have been composed in the late fourth century.¹² Two of the addressees of Pelagonius' letters, Arzygius and Astyrius, have been associated tentatively with holders of high office in that period; other names that appear in the text are indicative in general of a similar date.¹³ Adams has observed that elements of Pelagonius' vocabulary corroborate a date close to that of Vegetius.¹⁴

The cognomen Saloninus, attached to Pelagonius' name in the subscription of the Florence manuscript,¹⁵ may indicate a connection with Dalmatia, although as Fischer has noted, the name is not restricted to natives of that region.¹⁶ But an origin in this region, the frontier between Latin- and

¹¹ Veg. prol. 2–3.

¹² Fischer, 'Medizinische Literatur', in R. Herzog (ed.), *Die lateinische Literatur von 284 bis 374 n. Chr.* (Munich, 1989), 81.

¹³ Betitius Perpetuus Arzygius, *consularis Tusciae et Umbriae* after 366 and L. Turcius Apronianus Asterius, *corrector Tusciae et Umbriae* in 342 and *praefectus urbi* 362–4; Ihm, *Pelagonii Artis veterinariae quae extant* 15–16.

¹⁴ Adams, *Pelagonius*, 3–4.

¹⁵ It appears in fact in the plural as *commentum... Pelagoniorum Saloniniorum* (Pel. Lat. 470); corrected by Hoppe, 'Die *Commenta artis mulomedicinae* des Pelagonius', 190–2, who demonstrates how the corruption may have taken place.

¹⁶ 'The First Latin Treatise', 219.

Greek-speaking areas of the empire,¹⁷ would account for Pelagonius' bilingualism. The inclusion of magical remedies in Pelagonius' treatise provides no more indication of his religion than in the case of Apsyrtus.¹⁸ An allusion to *Sol ipse dominus orbis, decus mundi* is similarly inconclusive: as Hoppe pointed out, the association of the horse with the sun-god is a rhetorical topos, used (for example) by Hierocles as well.¹⁹

Since the content of the text is largely taken at second hand from other works of disparate origin, language, and date, it does not provide certain evidence for Pelagonius' identity or location. *Materia medica* and systems of measurement appear to be copied from the sources with little or no alteration: a reference to the *modius castrensis*, a military grain-measure, for example, simply echoes Apsyrtus.²⁰ A number of references seem to reflect an urban setting, whether of Pelagonius or his sources. A prescription for treatment in a *balneum*, or bath-house, comes from Eubulus.²¹ Another treatment (source unknown) involves taking the horse for a stroll past the stalls of spice-merchants:

prodesse etiam ferunt, si deambulent inter pigmentarios, quia odores diversi latenter pulmonibus prosunt.²²

And they also say that it helps if they go for a stroll among the spice-merchants, where the different scents subtly help the lungs.

There are also references to the hippodrome in Pelagonius' text, notably in a series of remedies attributed to *quadrigarii* or charioteers.²³ The addressees of Pelagonius' letters are described as owners of racehorses; they seem to have been men of high standing.²⁴ Pelagonius adopts a somewhat deferential tone in these letters, speaking of *claritas tua*.²⁵

Whether or not Pelagonius was a practitioner is not made clear in the treatise. In his dedication, Pelagonius writes *mihi sufficit sanare quod amo*, 'it is enough for me to heal what I love',²⁶ but his claim of a love for horses is more credible than that of medical competence. He refers to having examined sick horses, and also their owner, himself.²⁷ But in other instances where a treatment is recommended from experience, Pelagonius may be shown to be paraphrasing Apsyrtus without compunction. Fischer and Adams favour the

¹⁷ G. Dagron, 'Aux origines de la civilisation byzantine: Langue de culture et langue d'état', 34.

¹⁸ One of these spells is regarded as an interpolation by Fischer. On Pelagonius' magic, see Adams, *Pelagonius*, 28 ff.

¹⁹ Pel. Lat. ep. ded. 1; 'Die *Commenta*', 192–3.

²⁰ Pel. Lat. 25; cf. Aps. M1062 = B130.134. ²¹ Pel. Lat. 271.

²² Pel. Lat. 211 = M196 = B38.10, *CHG* I pp. 202–3; in Fischer's commentary ad loc. it is noted that the treatment is not obviously related to the disease (dropsy).

²³ Pel. Lat. 17, 190, 369, 464, 465.

²⁴ Adams, *Pelagonius*, 113 ff.

²⁵ Pel. Lat. ep. ded. 1; 216.

²⁶ Pel. Lat. ep. ded. 1.

²⁷ Pel. Lat. 216.

view that Pelagonius was an amateur, and note that the distinction between amateur and professional was not as strict as it is today.²⁸ Certainly it is not unusual for a horseman to be familiar with veterinary treatments, both in theory and to some extent in practice. And there are at least two other instances, in antiquity, of veterinary treatises compiled by amateurs, namely those of Hierocles and Vegetius. Fischer also points out that Pelagonius seems to have been better educated than one might expect a *mulomedicus* to be (though in general the Greek veterinary writers represented in the *Hippiatrica* seem to have been well educated), and that the men to whom Pelagonius addresses his letters are not *mulomedici* but racehorse-owners.²⁹ Pelagonius refers on occasion to *mulomedici* as though he were not one of them: *Sane cui pellis aruerit et cibum non sentit (quod genus passionis mulomedici coriaginosum appellant)*, 'indeed the one whose skin is dry and who does not pay attention to its feed (which type of affliction the horse-doctors call *coriaginosus*)'.³⁰ Elsewhere, he instructs that a servant or another person be delegated to carry out a procedure: *nomen domini in dextra ungula dolentis equi aut servus aut quilibet alius scribat*, 'let a slave or anyone else inscribe on the right hoof of the suffering horse the name of its master'.³¹ though the involvement of a third party might in this instance be a requirement of the magical protocol.

THE FORM OF THE TREATISE

The mimesis of Apsyrtus' epistolary form also seems to support the view that Pelagonius does not write as a professional horse-doctor.³² For Pelagonius, Apsyrtus was not just a source of information, but also a model of literary style. Columella's text was treated by Pelagonius in the same manner.³³ Unlike Apsyrtus, Pelagonius does not include in his letters the element of *erotapokrisis* (apart from one instance),³⁴ and indeed without the help of that device,

²⁸ See Adams's discussion of this question, *Pelagonius*, 662 ff., with reference to conflicting opinions.

²⁹ 'Pelagonius on Horse Medicine', 288.

³⁰ Pel. Lat. 26. Similar attributions of technical terms to *medici* are, however, found in Theodorus Priscianus, whose medical qualifications are beyond doubt. See Langslow, *Medical Latin*, 126, where it is observed that such expressions are not uniformly present in manuscripts of Theodorus' text.

³¹ Pel. Lat. 126; Heim 12.

³² Cf. Stemplinger, *Das Plagiat*, 121 ff.

³³ Adams, 'Pelagonius and Columella', 72–95.

³⁴ The letter to Festianus begins *scripsisti mihi*, Pel. Lat. 363.

handles the introduction of subjects clumsily.³⁵ For example, Astyrius, the addressee of the letter introducing chapter IX, *De laeso dorso* 'On an injured back', is described as an *auriga privatus* or amateur charioteer. Pelagonius explains that the subject of the letter, important for pack-animals, is in fact irrelevant to Astyrius' needs:

igitur de dorso aput te pauca dicamus, licet cura istius corporis tibi aurigae privato non adeo sit necessaria, quia curuli equo a labore pars ista corporis aliena est. tamen ut ex omni parte integra inlibataque corpora equorum perseverent, etiam hanc curam scire te convenit.³⁶

Therefore we will say a few things about the back in your presence, although for you, as an amateur charioteer, a cure for that area should not really be necessary, since in the racehorse that part of the body is unacquainted with distress. Nevertheless, so that the bodies of horses remain sound and unimpaired from all parts, it is proper that you know this cure as well.

Pelagonius takes over the 'disclosure formula' used by Apsyrus: *scire te convenit* = $\chi\rho\eta\ \sigma\epsilon\ \epsilon\lambda\delta\acute{\epsilon}\nu\alpha\iota$, 'you ought to know'. He uses *congruum est addiscere* 'it is fitting to learn in addition', in a similar fashion,³⁷ and also the variation *congruum est ut... pauca dicamus* 'it is fitting that we say a few things', more reminiscent perhaps of oratory than of letter-writing.³⁸

The treatise begins with the dedicatory epistle addressed by Pelagonius to Arzygius, in which Pelagonius displays his familiarity with the literary conventions of prefaces. This first letter is different in form and style from those which figure in the body of the treatise. Both the greeting, *Pelagonius Arzygio suo salutem*, 'Pelagonius to his dear Arzygius, greetings', and the closing wish *vale*, are preserved in the Latin (the dedication does not exist in Greek). In the dedication, Pelagonius draws a comparison between himself and Arzygius. The two men are united by a fondness for horses; but Pelagonius conveys the usual protestation of inadequacy and humble style by contrasting his own unpolished manner of expression with Arzygius' oratorical prowess:

<Cum> frequentissime te equos laudare, amare semper vehementer admirarer... imitarer quidem te et ipse, ut de ipsorum laudibus aliquid scriberem, si digna proferrem: nunc pauperem linguam nullus aut modicus sermo protelat.

Since I have always greatly admired your love and frequent praise of horses, I should like to imitate you myself in some way, and write a little something in their praise, if I could produce something worthwhile: yet my impoverished tongue produces little or no speech.

³⁵ The artificiality of Pelagonius' use of the epistolary form is noted by Adams, *Pelagonius*, 11.

³⁶ Pel. Lat. 163.

³⁷ Pel. Lat. 4.

³⁸ Pel. Lat. 216.

Pelagonius nevertheless, in a parenthetical phrase, shows that he knows about encomia and their topoi:

nec inmerito rem tam nobilem, rem omnibus gratam amare non desinis, siquid Sol ipse dominus orbis, decus mundi, solo equorum ministerio contentus cotidie nobis aut cum ipsis aut per ipsos reddit optabilem lucem.

Nor is it unworthily that you do not cease to love a thing that is so noble, a thing pleasing to all: indeed the Sun himself, lord of the universe, glory of the world, is content by the service of horses to give forth his longed-for light to us every day, either with them or from them.

He concludes with some flattery and the conclusion of the comparison:

mihi sufficit sanare quod amo contentusque sum me ex tua claritate florere. tibi enim quaeritur quicquid in nobis est, nobis enitet quicquid in te est.

It is enough for me to heal what I love, and I am content to flourish from your brilliance. For whatever is in us is to be sought in you, and whatever is in you shines forth in us

and a wish that the book be read with pleasure:

ut libenter suscipias, libentius legas deprecor.³⁹

I pray that you might take it up with pleasure, and read it with even more pleasure.

This expression of polite sentiments is quite different in tone from Apsyrtus' injunction, in his preface, to Asclepius to study the treatise lest he be ridiculed by other horse-doctors.

After Pelagonius' dedication there follows a table of contents listing the titles of thirty-five chapters; the subjects begin with general conditions, *curae ad morbum omnem*, *macies*, and *febris*, 'cures for any disease, thinness, and fever', and proceed thereafter with no discernible pattern. The Latin text breaks off after chapter 31; some of the passages preserved in Greek enable one to fill in the lost chapters.⁴⁰ The new manuscript E has provided the Latin text of some of these fragments, as well as additional material.⁴¹

After the table of contents, the treatise begins with an introductory discussion of the age at which horses are useful for racing and for domestic use (presumably riding), and the manner in which age may be determined from inspection of the teeth. This passage is lifted from Columella, as is the description of the points of the horse that follows.⁴² (None of the other

³⁹ Pel. Lat. ep. ded. 1–2.

⁴⁰ These passages are included in Fischer's edn. as fragments 471–533.

⁴¹ Corsetti, 'Un nouveau témoin', Adams, 'Notes on the Text, Language, and Content of some New Fragments of Pelagonius', 489–509.

⁴² Pel. Lat. 1.2–3 = Col. VI.29.5 (from Varro, *RR* II.7.2–3); Pel. Lat. 2 = Col. VI.29.2 (Varro, *RR* II.7.5).

elements of Columella's discussions of horse-breeding seem to have been used by Pelagonius). Eighteen of the surviving chapters begin with a letter,⁴³ after which are listed recipes introduced simply with *item* or *aliud*,⁴⁴ or with a lemma describing the type of treatment, the ailment for which it is appropriate (*ad ventris dolorem sive ad strofum*),⁴⁵ or its source (*Litori Beneventani c.v.*).⁴⁶ The last few chapters of the treatise consist of lists of recipes for drugs, organized by category into *emplastri*, *collyria*, etc. This loosely bound structure, in which the greater part of the treatise is made up of lists of short recipes, appears to have contributed to the disintegration of the text, both in its Latin transmission and in the various recensions of the *Hippiatrica*.

PELAGONIUS' SOURCES

It is revealing of Pelagonius' method of compilation that even a statement about the use of sources has been culled from another writer. The first chapter of the text begins with Columella's description of the common causes of disease, and a statement that echoes Apsyrus' introduction to his collection of recipes for drugs:⁴⁷

Columella

Plerumque iumenta morbos concipiunt lassitudine et aestu, nonnumquam et frigore, et cum suo tempore urinam non fecerint; vel si sudant, et a concitatione

Pelagonius

Pelagonius Festiano.
Congruum est etiam medicinas aut potiones quibus morbi expellantur addiscere. morbos plerumque equi concipiunt aut lassitudine aut aestu aut frigore aut fame aut <si> cum diu steterint, subito ad cursum fuerint stimulati, aut si suo tempore urinam non fecerint, aut sudantes et

Apsyrus

Δέσποτα Κέλερ, τῆς συναφείας ἀπαιτούσης τὴν τῶν φαρμάκων βοήθειαν, ἐπιδείξομέν σοι, ὅσα τε αὐτοὶ καὶ παρὰ τῶν ἄλλων ἐπειράθημεν βοηθήματα τοῖς ἵπποις. ἅτινα γράφοντες ἀναφέροντες ἐκείνοις τὴν χάριν, καθότι παρ' αὐτῶν ἐλάβομεν τὴν ἀρχὴν . . . λέγων δὴ πρῶτον ἐγχυματισμῶν σκευασίας καθαρκικάς.

⁴³ I–X, XIII–XV, XVII, XX, XXI, XXIV, XXVII.

⁴⁴ On use of ἄλλως as a heading, see Wilson, 'A Chapter in the History of Scholia'.

⁴⁵ Pel. Lat. 116.

⁴⁶ Pel. Lat. 6.1.

⁴⁷ Pel. Lat. 4 = M41 = B4.1, *CHG* I p. 34; Col. VI.30.3 Aps. M759 = B129.1, *CHG* I p. 385; see Adams, 'Pelagonius and Columella', 79.

confestim biberint; vel si, cum diu steterint, subito ad cursum extimulata sunt.

Beasts of burden generally catch sicknesses from fatigue or from the heat, and sometimes also from the cold and when they have not passed urine at the proper time, or if they sweat and then drink immediately after having been in violent motion, or when, after they have stood for a long time, they are suddenly spurred into running.

a concitatione statim biberint. quibus remedia haec a maioribus profuisse accepimus et facientes nosmetipsi experti sumus.

Pelagonius to Festianus. It is proper to learn in addition about the drugs and drenches by which diseases are dispelled. Beasts of burden generally catch sicknesses from fatigue or from the heat, or from cold or hunger, or when, after they have stood for a long time, they are suddenly spurred into running, or when they have not passed urine at the proper time, or sweating and having been in violent motion they drink immediately. We have received these remedies for such things from our elders and have proved them by making them ourselves.

Lord Celer, since the circumstances call for the aid of drugs, we shall display for you as many remedies for horses as we have learned ourselves or from others. In writing these things we offer gratitude unto them, since it is from them that we received the first principles. . . . I will speak first of the composition of purging drenches.

The use of many sources is presented elsewhere as a desirable characteristic:

Sollicito tibi de singulis curis pecorum etiam ad dolorem ventris vel ad strofum remedia exquisita de multis auctoribus mittenda curavi.⁴⁸

I have taken care to present to you remedies selected from many authors about the specific treatments for beasts with colic or twisted intestine.

Another example of the way in which Pelagonius weaves together ideas and phrases from his sources is provided by the introduction to ch. VII. In this letter, a quotation from Columella (indicated here in italics) is substituted for the technical term *mulomedici* ἰππιατροί in a passage which echoes Apsyrtus' criticism of his colleagues:⁴⁹

⁴⁸ Pel. Lat. 115.

⁴⁹ Pel. Lat. 139; Col. VI.27.1; Aps. M59 = B33.1.

Pelagonius

Pelagonius Festiano ait. multi, *quibus cordi est educatio* vel cura *generis equini*, frequentissimi erroris subeunt culpam. nam cum equus vel aliud genus animalis dysuria vexatur et maxime succurendum est huic, velut strofum aut tormenta ventris vel intestinorum sperantes quasi duri ventris medentur et tunc, cum aliud in causa est, alii rei adhibetur cura et periculum subit, et quod verius dicendum est, rumpitur.

Pelagonius to Festianus [said] Many, *whose pleasure is the rearing or curing of the equine race*, very frequently encounter the fault of error. For when the horse or other type of animal is troubled by dysuria and needs very much to be helped for this, they, hoping that it is strophus or twisted stomach or intestine, treat the stomach, so that when one thing is the cause, the cure for another is employed, and it encounters danger, and, what is more to be said, it ruptures.

Apsyrtus

Δέσποτα Αἰλιανέ, ἐδηλώθη μοι ἐπιζητηκέναι σε, ὅτι οἱ πλείστοι τῶν ἵπποιατρῶν τινα πάθη τῶν συμβαινόντων ἐν τοῖς ἵπποις μὴ ἀφορισάμενοι, τὰναντία προσφέρουσι βοηθήματα. ἀλγοῦντι γὰρ τὴν κοιλίαν ὥς δυσουριῶντι βοηθοῦσι, καὶ ῥήξιν λαμβάνει τὸ ζῶον.

Lord Aelian, it has been made known to me that you inquired why most horse-doctors, not distinguishing the diseases that happen among horses, offer the wrong remedies. For they aid the horse that is ailing in its stomach as though it were suffering from dysuria, and the horse suffers rupture.

Pelagonius levels similar criticism, probably also in imitation of Apsyrtus, at unnamed persons in the letters which open chapters X and XIII; nevertheless, after these polemical introductions, he presents quotations from his sources uncritically, and (as far as one can tell from the cases in which sources survive independently) without much alteration of their text. This is particularly noticeable in the case of the twenty passages from Columella, who is used as a source more frequently than the five incidences of his name would suggest.⁵⁰ Three mentions of Celsus presumably allude to the lost *De agricultura*; in one instance Pelagonius cites the work via Columella, but other references may be at first hand.⁵¹

Pelagonius cites Apsyrtus six times by name, and takes material from him in many other instances.⁵² In what form did he know Apsyrtus' text? Although a Latin translation, that used by the compiler of the *Mulomedicina Chironis*, may have been available, this version is in a different, less correct Latin (probably the basis for Vegetius' criticism of Apsyrtus for *vilitas sermonis*)

⁵⁰ Parallels listed in Fischer's edition, p. 145.

⁵¹ On Columella's use of Celsus, see Weiss, *De Columella et Varrone*, 9–17.

⁵² Pel. Lat., ed. Fischer, 145 ff. Celsus, frags. XXVIII–XXX, ed. F. Marx, *CMIL*.

than the passages from Apsyrtus in Pelagonius.⁵³ The difference may be explained as the result of a stylistic reworking of the existing translation carried out by Pelagonius; on the other hand, Adams has advanced a strong argument that Pelagonius translated Apsyrtus from the Greek himself, inserting phrases from Columella into the text.⁵⁴ This view is supported by the fact that Pelagonius retains words in Greek letters in several passages of the Latin text that are derived from Apsyrtus. It is interesting that Pelagonius uses Columella to help translate Apsyrtus just as did Jean Ruel, a little over a thousand years later in his translation of the *Hippiatrica*.

Hoppe pointed out that several passages related to Pelagonius (unfortunately with no attribution) are also present in the *Mulomedicina Chironis*, and must be derived from a common source.⁵⁵ As has been shown by Adams, the numerous parallels between Eumelus, Pelagonius, and Columella, initially thought to result from Pelagonius' use of Eumelus, may be explained by assuming that both Eumelus and Pelagonius quote from a lost Latin veterinary writer who in turn is related to Columella.⁵⁶ The relation, if any, of the two unnamed sources is not clear. The matter is complicated by the fact that those of Pelagonius' sources that may be identified are not independent of one another: Apsyrtus used Eumelus, and Eumelus in turn is also related to Columella.

Although he may have thus had before him several different versions of the same material, Pelagonius' method of compilation means that it is usually possible to tell which source he is following, even when no name is indicated, if that source or a related text exists for comparison. In the following instance, while the amuletic use of a shrew-mouse is recommended both by Columella and by Apsyrtus, Pelagonius betrays his choice of source by using Columella's words—a logical choice, since the passage was conveniently already in Latin, and also in a style that Pelagonius evidently admired:⁵⁷

Columella

Solet etiam ipsum animal vivum creta figulari circumdari; quae cum siccata est, collo boum suspenditur. ea res innoxium pecus a morsu muris aranei praebe-

Pelagonius

est etiam praesens remedium, ne equus morsu muris aranei contigatur. animal <ipsum E>⁵⁸ vivum creta figulari circumdatur, quae cum induruerit, collo pecoris suspenditur. ea res innoxium pecus a morsu muris aranei praebe-

Apsyrtus

καὶ αὐτὴν δὲ τὴν μυγαλὴν περιάπτειν.

⁵³ Fischer, 'The First Latin Treatise', 221.

⁵⁴ *Pelagonius*, 211 ff.

⁵⁵ 'Die *Commenta*', 203 ff.

⁵⁶ 'Pelagonius, Eumelus, and a Lost Latin Veterinary Writer'.

⁵⁷ Col. VI.17.6; Pel. Lat. 280; Aps. M694 = B87.1, *CHG* I p. 314.

⁵⁸ See Corsetti, 'Un nouveau témoin', 45.

There is also a practice of encasing the animal itself while still alive in potter's clay and, when the clay is dry, affixing it as an amulet round the ox's neck. The thing itself keeps the animal unharmed from the bite of a shrew-mouse.

There is also an efficacious remedy, lest the horse be affected by a shrew-mouse bite. The animal is encased, still alive, in potter's clay, and when this hardens, is affixed as an amulet on the neck of the animal. The thing itself keeps the animal unharmed from the bite of a shrew-mouse.

And affix the shrew-mouse itself as an amulet.

Adams has shown that passages drawn from the source shared with Eumelus may also be readily distinguished, since they are similarly cut and pasted, remaining in a 'radically different style from the rest of the work'.⁵⁹ In addition to not imposing uniformity of style, Pelagonius did not standardize weights and measures or even terms for disease: Fischer has also drawn attention to Pelagonius' inconsistency in names for *tetanus*, which appears both as *robur* and the loanword *opisthotonos*.⁶⁰ This inconsistency results from the use of different sources: the Greek word appears in a passage quoted from Apsyrtus, who is named in the lemma, while the Latin word is in a passage related to the *Mulomedicina Chironis*, evidently from a Latin source.

In several places Pelagonius elaborates on Apsyrtus' plain-spoken text; for example, instead of τῷ βουλμιῶντι χρὴ βοηθεῖν οὕτως, 'treat the horse with ravenous hunger in this way', Pelagonius paints a dramatic picture: *utilissimum et necessarium est domino filocalo bulimioso succurrere. nam equi interdum famem sic non ferunt, ut concidant*, 'it is most useful and necessary for a diligent master to aid a horse with ravenous hunger, for sometimes horses cannot endure hunger, and they die'.⁶¹ In a description of the causes of tetanus based on Apsyrtus, Pelagonius renders ἐν λιθοστρώτῳ 'on a pavement' as *aut in marmorato aut tessellato*, 'on a marble or mosaic pavement'.⁶² These additions are for the most part confined to remarks of an introductory nature rather than to the technicalities of the text.

Pelagonius thus appears to have had access to at least three agricultural and veterinary texts. Other names associated with remedies may represent oral sources or simply inventions: Gallicanus, Litorius Beneventanus, Optatus, Caystrius Siculus, Aemilius Hispanus, Florus. Some are identified as *viri clarissimi*, others as *mulomedici* or *mangones* 'horse-doctors' or 'horse-dealers'.

⁵⁹ 'Pelagonius, Eumelus', 7.

⁶⁰ 'Pelagonius on Horse Medicine', 291.

⁶¹ Aps. M558 = B67.1, CHG I p. 262; Pel. Lat. 188.

⁶² Pel. Lat. 270, omitted from the translation.

A lemma preserved only in the Greek text of B (a recension in which false attributions do not appear) ascribes a treatment to Mago; as we have seen, it is indeed likely that Pelagonius used a text derived from the Mago tradition. Other names that appear in Pelagonius' text, Hieron and Eubulus, are included in Varro's list of Greek writers on agriculture added to Mago's treatise by Cassius Dionysius. Celsus, also quoted by Pelagonius, is added to Columella's version of this list of writers, and appears to have been the intermediary through whom Columella used Cassius Dionysius–Diophanes.

Another incidence of Mago's name, however, comes from Apsyrtus; the remedy is not present in Columella:⁶³

Apsyrtus

καὶ τοῦτο δὲ ἐκ τῶν Γεωργικῶν Μάγωνος
τοῦ Καρχηδονίου. λέγει γὰρ τοῦ
δυσουριῶντος ἵππου τοὺς ἐμπροσθίους
πόδας κάτωθεν ὑποξύσαντα ἐκ τοῦ κατ'
ὄνυχα μέρους, τὰ ὑποξύσαντα αὐτῆς τῆς
ὀπλῆς τρίβειν ἐν οἴνῳ ὅσον κοτύλην ἅ καὶ
ἐγχυματίζειν διὰ τῆς ῥινός, καὶ οὐρήσει.

ἐγνων δὲ ἐγὼ τοῦτο παρὰ Σαρμάταις· δεῖ
στήσαντα τὸν ἵππον καταπετάσαι ἀπὸ τοῦ
τραχήλου μέχρι τῶν ἰσχίων ἱματίῳ, καὶ
καλύψαντα ὑποθυμῶν τὴν κοιλίαν καὶ τοὺς
διδύμους καστόριον ἐπ' ἀνθράκων ἐμβαλὼν,
εἴτα ἀφελόντα (ὑφελόντα B) τὸ ἀγγεῖον, ἐν ᾧ
ὑποθυμῶνται, διακινήσαι τοῦτο ποίησον, καὶ
τάχιστα οὐρήσει.

And this is from the *Georgica* of Mago the Carthaginian. He says to file under the hooves of the forelegs of the horse with dysury, and grind the hoof-filings in 1 cotyle of wine and drench through the nose, and it will urinate.

And I learned this from the Sarmatians: one ought to cover the standing horse with a cloth from the neck to the hip, and fumigate it while covered under its belly and testicles by placing castor on hot coals. Then removing the vessel used for fumigation, make it move, and it will urinate speedily.

Pelagonius

Aliud ad eos qui non meiant, <Magonis> Carchedoni, quod solus adseveravit. dicit enim debere de prioribus pedibus ungulas subter ipsius equi radi et teri cum vini sext. et naribus infundi. adseverat certissimum remedium.

Item aliud Absyrti, quod se apud Sarmatas vidisse adseveravit. nam dicit cooperiri debere equum diligenter, ita ut usque ad terram coopertoria demittantur, ne fumus thymiamatis exeat, et sic castorio carbonibus imposito omnem ventrem et testes ipsius equi fumigari: statim meiat.

Another, for those who do not urinate, of Mago of Carthage, which he alone recommends. He says that one must file the hooves of the forelegs of the horse itself and grind with a sextarius of wine, and pour in through the nostrils. He recommends it as a most certain cure.

Yet another, of Apsyrtus, which he recommends, having seen it among the Sarmatians. He says to cover the horse carefully, so that the covers reach down to the ground, lest the smoke of fumigation escape, and thus placing castor on hot coals fumigate the entire belly and testicles of the horse: it will urinate immediately.

⁶³ Aps. M59 = B33.8, *CHG* I pp. 168–9; Pel. Lat. 150–1, Speranza fr. 57.

Superstitious and magical remedies in Pelagonius' text seem to have come from different sources. Certain elements in prescriptions seem to be traditional, such as the hellebore cure, the sympathetic application of the animal's own blood (from the source shared with Eumelus), the specification of odd numbers of days, or that medicines should be administered through the left or right nostril (from Eumelus via Apsyrtus). But there are a number of prescriptions in Pelagonius' treatise which represent a more developed or 'professional' type of magic. Some of these may have been taken over from Apsyrtus, others are from a Latin text, but whether this source was different from the Eumelus source or the source shared with the *Mulomedicina Chironis* is unclear.⁶⁴

THE TRANSLATION

There is no indication, in the Greek text of Pelagonius, of the circumstances in which the translation was made, or of the identity of the translator. Indeed, despite the attention of Politian, the treatise, better known from Grynaeus' *Hippiatrica*, was long thought to have been composed in Greek.⁶⁵ This view, maintained by some even after the rediscovery of Politian's manuscript, was disproved conclusively by Hoppe, who showed that passages quoted from Columella are too close to Columella's text to represent retranslations, and furthermore that several passages in the Greek version of Pelagonius may be explained as misunderstandings or mistranslations of Latin words or phrases.⁶⁶ K.-D. Fischer agrees that 'the nature of the mistakes and blunders in the translation make it likely that the translator knew neither Latin nor veterinary medicine well'.⁶⁷ It is unlikely, therefore, that the translation was made by the author himself, and similarly unlikely that it was made by a bilingual practitioner for his own use.

Was the translation made for compilation into the *Hippiatrica*? There is no evidence that the text circulated outside of the compilation: no Greek manuscripts of Pelagonius have surfaced, and the other authors in the *Hippiatrica* do not mention his name or show signs of familiarity with his text. The only reference to Pelagonius in Greek outside of the compilation seems to be in the

⁶⁴ Five of the spells are published by Heim, *Incantamenta* (nos. 12, 13, 100, 112, 113); see also Björck, 'Apsyrtus, Julius Africanus', 55–70. Pelagonius' use of magic and its cultural context is discussed in Adams, *Pelagonius*, 20–34.

⁶⁵ See Fischer's introduction, p. xxi.

⁶⁶ 'Die *Commenta*', 216–19.

⁶⁷ 'Pelagonius on Horse Medicine', 295.

tenth-century recension of the *Geoponica*, where two chapters are falsely ascribed to him.⁶⁸ (The attributions in the lemmata of *Geoponica* XVI are drawn from the *Hippiatrica*, so they do not indicate that Pelagonius was known in his own right.) If the translation had been made specifically for inclusion in a compilation of Greek veterinary manuals, one would expect Pelagonius' treatise to have been translated in full, and fully incorporated into the *Hippiatrica*. The dedicatory epistle and many other epistolary headings are not present in any recension of the Greek compilation; however, they may have been lost in the process of transmission. Certainly passages by other authors which are of a rhetorical rather than a technical nature were included in the *Hippiatrica*. On the basis of the text surviving in the M, B, and CL recensions of the compilation, it would indeed appear that the entire treatise of Pelagonius figured in the first hippiatric compilation A.⁶⁹ If the translation belonged to the context of compilation of the *Hippiatrica*, one might also expect the translator to employ the technical language used in the other Greek veterinary works; this, however, does not seem to be the case, as we shall see below.

Hoppe suggested that the translation was made about two centuries after the treatise was written, in Ravenna.⁷⁰ But one wonders whether, in Ravenna, the original text might not have been more useful.⁷¹ The translation was presumably made for an audience of Greek speakers, and also probably for practical use rather than out of literary curiosity. Was it intended to supplement the existing hippiatric treatises in Greek? Or were these not readily available to the translator (or his patron)? The translation seems to have been made by a speaker of Greek with less than perfect knowledge of Latin, and an incomplete grasp of veterinary technicalities in both languages⁷²—but these characteristics, no doubt shared by many, do not help to pinpoint the translator's location or his date. Certainly knowledge of Latin was not uncommon in the East in the two centuries after Pelagonius wrote, and Latin was still the official language of the government, including the army and the law.⁷³ Translations of Latin technical texts into Greek were undertaken especially in the context of legal studies and practice: Dorotheus, professor of law at Berytos and part of the commission responsible for compiling Justinian's *Digest*, made a translation of the entire *Digest* shortly after it was completed,

⁶⁸ *Geop.* XVI.2 and XVI.17.

⁶⁹ Hoppe, 'Die *Commenta*', 217.

⁷⁰ 'Pelagioniusstudien', 3.

⁷¹ V. Ortoleva also points out that it is more logical for a Latin text to have been translated to Greek in the East: *La tradizione manoscritta della 'Mulomedicina' di Publio Vegezio Renato*, 70–4.

⁷² Hoppe, 'Die *Commenta*', 217 ff.

⁷³ G. Dagron, 'Aux origines de la civilization byzantine: Langue de culture et langue d'état', 23–56.

probably between 536 and 539.⁷⁴ The so-called *κατὰ πόδας* commentaries are another example.⁷⁵ Priscian's *Institutiones* were intended for the purpose of teaching Latin to speakers of Greek, and there is some evidence of a circle of Priscian's students with an interest in Latin literature in early sixth-century Constantinople.⁷⁶ In that golden age of chariot racing, Pelagonius' allusions to the circus and recipes for *κουδριγάρια ποῦλβερ* may have made his treatise attractive to a racehorse-owner or hippodrome fan.

It has been shown by Adams that the Greek text of Pelagonius is closer to the text of R than to E.⁷⁷ (Vegetius, on the other hand, is closer to E.) The translation is not, however, dependent upon R, since interpolations in R (namely the passages introduced by *in alio sic* 'in another [copy] thus' that have become embedded in certain chapters) are not present in the Greek.⁷⁸ Some of the Greek lemmata, on the other hand, seem to be faithful translations of Pelagonius' *item aliud*. Traces of the structure of Pelagonius' treatise may be also be discerned in the Greek, especially in M, where a number of lists of recipes are also consecutive in the Latin.

Certain peculiarities of Pelagonius' Latin text contribute to the interest of the translation. The translation of any technical language presents a challenge; and the language of veterinary medicine, which combines elements of medical vocabulary with words specifically associated with the horse, is particularly complicated.⁷⁹ The fact that the Greek version of Pelagonius figures among a collection of Greek texts of similar nature allows us to compare the technical vocabulary of the translation against standard usages in the other sources of the *Hippiatrica*. The Apsyrtus passages in Pelagonius afford an interesting example of retranslation. A comparison with the text of Apsyrtus in the *Hippiatrica* shows that the translator does not appear to be familiar with Apsyrtus' work, nor with some of the technical terms commonly used in other Greek hippiatric texts. Other traits reflect the coexistence of Latin and Greek in the Roman empire. Interaction between the two languages took place routinely in many different contexts, such as the army, the law, the calendar, etc.⁸⁰ Pelagonius and his translation, a complementary pair of texts,

⁷⁴ F. Brandsma, *Dorotheus and his Digest Translation* (Groningen, 1996).

⁷⁵ N. van der Wal, *Les Commentaires grecs du Code de Justinien* (The Hague, 1953), 49 ff.; D. Holwerda, 'Le Code de Justinien et sa traduction grecque', *Classica et medievalia*, 23 (1962), 274–92. For other examples of translation, see E. A. Fisher, 'Greek Translations of Latin Literature in the Fourth Century A.D.'

⁷⁶ M. Salomon, 'Priscianus und sein Schülerkreis in Konstantinopel', *Philologus*, 123 (1979), 91–6.

⁷⁷ Adams, *Pelagonius*, 7.

⁷⁸ Pel. Lat. 138.1; cf. M612, *CHG* II p. 76. See M. Ihm, 'Zur Überlieferung des Pelagonius', *Rh. Mus.* 46 (1891), 371–7.

⁷⁹ On the composition of Latin veterinary vocabulary see Adams, *Pelagonius*, 640 ff.

⁸⁰ The categories enumerated in Viscidi, *I prestiti latini nel greco antico e bizantino*; cf. also H. Zilliacus, *Zum Kampf der Weltsprachen im oströmischen Reich* (Helsingfors, 1935).

each in a mixed language, provide examples of a number of different categories of interaction. The first of these is the use of Greek technical terms, which is conventional in Latin medical texts, and indeed constitutes a defining feature of what may be called 'medical Latin'.⁸¹ 'Agricultural Latin', likewise, has a high proportion of Greek words—the result as much of the elegant, Hellenizing style employed by Varro and Columella as of use of the Greek texts of Cassius Dionysius and Diophanes. Pelagonius is no exception to these conventions; indeed, Ihm described him as *philograecus*.⁸² Whether or not he translated Apsyrtus himself, Pelagonius appears to have known some Greek. A number of words and phrases appear in Greek letters in the text, while certain non-technical words in transliteration may simply be stylistic affectations. Use of Greek synonyms in medical Latin is paralleled by the practice in Greek of including foreign synonyms for plant names in medical treatises.⁸³ This practice is reflected in the translation of Pelagonius by the retention of Latin plant names, to which the Greek equivalents are added. A bilingual state bureaucracy had developed standard translations for formulaic phrases such as ranks and titles;⁸⁴ though Pelagonius' text is a private document without military or administrative terminology, a few of his uses of titlature have been conveyed in the Greek. On a more informal level, a number of everyday Latin words had been incorporated into Greek and naturalized, in many cases displacing older Greek terms.⁸⁵ A number of such loanwords were available to the translator. Finally, the rich composite language of magic was to some extent shared by both Latin and Greek.

THE CHARACTER OF THE TRANSLATION

The errors of translation assembled by Hoppe derive both from misreading and from misunderstanding. Some are amusing (e.g. *caudam rigidam* 'rigid tail' misread as *frigidam* and translated as οὐρὰν ψυχράν, 'chilly tail'), some potentially confusing to a reader (*pastilli compositi*, understood as *combusti*, as a result of Greek pronunciation? or *Item aliud Flori. herbam Artemisiām tunsam...* translated as ἀρτεμίσιας βοτάνης ἄνθος κόψας);⁸⁶ while others

⁸¹ See D. R. Langslow, *Medical Latin in the Roman Empire*, 76 ff.

⁸² *Pelagonii artis veterinariae*, 16.

⁸³ Wellmann, 'Die Pflanzennamen bei Dioskurides'.

⁸⁴ Magie, *De romanorum iuris publici sacrique vocabulis sollemnibus in graecum sermonem conversis*.

⁸⁵ Viscidi, *I prestiti latini nel greco antico e bizantino*.

⁸⁶ Pel. Lat. 294, M330 = B34.26, *CHG* I p. 191; Pel. Lat. 383, M523 = B22.54, *CHG* I p. 119; Pel. Lat. 364, M802 = B129.40, *CHG* I p. 394.

might prove downright dangerous (as when, in the phrase *sanguis de matrice detrahendus est*, the word *matrix*, here denoting a vein, is misunderstood as *matrix* ‘womb’ and translated as αἷμα ἐκ τῆς γαστρὸς λάμβανε, ‘let blood from the womb’).⁸⁷ In other instances there is simply a loss of detail in the translation: *in piscinam mitti convenit ita ut natet* ‘it is good to put it in a fish-pond/swimming-pool so that it swims’ is translated simply as κολουμβησάτω, ‘let it swim’.⁸⁸

Can we identify any hallmarks (besides inaccuracy) of the translator’s style? Λοιπόν is used adverbially, occasionally to convey the sense of *sane*: *ostendam sane* becomes ἐπιδείξω δὲ λοιπόν . . .,⁸⁹ but often simply indicating a transition. The combination of particles οὐ μὴν ἀλλά,⁹⁰ used simply as a connective, with no obvious relation to the Latin, is very frequent.⁹¹ In some cases the translator gives double translations: χάρτην ἤτοι πάπυρον ‘paper or paper’;⁹² κάλπη ἤτοι τριπήδω ‘canter or three-foot’⁹³ where *tripodare* (obviously meaning ‘canter’, the only gait with three footfalls), is translated by the Greek term κάλπη (which though translated ‘trot’ in LSJ, in modern Greek means ‘canter’ or ‘gallop’)⁹⁴ and also what appears to be the Latin word transliterated or borrowed into Greek.⁹⁵ A number of rare words are also used by the translator, for example σύλλιθος, translating *inter lapides*.⁹⁶

Other medical terms are translated accurately, but without reference to the vocabulary of the other hippiatric treatises. *Morbos*, taken by Pelagonius from Columella (and ultimately Varro) is translated as λοιμός,⁹⁷ which confused the various editors of the *Hippiatrica*: in the M recension, excerpts from Pelagonius on *loimos* are in his chapter on *malis*, whereas in the B recension they make up a separate chapter Περὶ λοιμοῦ.

Pelagonius’ *potionare* for administering a drench (Columella’s *salivare*) is translated as προποτίζω, while *potio*, the drench itself, is translated προπότισμα.⁹⁸ This term, however, is not found in any of the other treatises

⁸⁷ Pel. Lat. 302, M433 = B42.4, *CHG* I p. 212; ‘Die Commenta’, 217 ff.

⁸⁸ Pel. Lat. 43, M187 = B36.21, *CHG* I p. 132.

⁸⁹ Three times in B34.24, *CHG* I p. 190.

⁹⁰ M496 (B22.34), *CHG* I p. 113 apparatus.

⁹¹ On οὐ μὴν ἀλλά, used often by Isocrates and Demosthenes, see J. D. Denniston, *The Greek Particles* (Oxford, 1959), 28–30.

⁹² Pel. M716 = B55.5, *CHG* I p. 243 (not preserved in Latin).

⁹³ Pel. Lat. 269.2, B34.23, *CHG* I p. 190. Adams, *Pelagonius*, 598 ff.

⁹⁴ On these terms, see Adams, *Pelagonius*, 60.

⁹⁵ A thorough discussion of the terms in Adams, *Pelagonius*, 598–602; one may add that in the *Tactics* of Leo VI the terms are presented as equivalent, the Latin loanword now appearing in first place: τῶν σκουταρίων ἐπελαύνειν εὐτάκτως τριπόδω μόνῳ, ἤγουν κινήματι συμμετρω πῶ λεγομένῳ κάλπα καὶ μὴ βιαίως τρέχειν; R. Vári, *Leonis imperatoris Tactica* I (Budapest, 1917), p. 154.

⁹⁶ M131 = B52.12, *CHG* I p. 234; Pel. Lat. 196.

⁹⁷ Pel. Lat. 4 (cf. Col. VI.30.3); M41 = B4.1, *CHG* I p. 34.

⁹⁸ Pel. Lat. 302–3; M433–4 = B42.4–5, *CHG* I p. 212.

in the *Hippiatrica* apart from that of Eumelus (where *προποτίζω* appears once:⁹⁹ the veterinary writers evidently preferred to use the terms *ἐμβάλλω* or *ἐγχυματίζω*. Similarly, *ἀφαίμαξις*, translating *sanguinem detrahēre*, does not appear elsewhere in the *Hippiatrica*; *φλεβοτομία* is used instead.¹⁰⁰

GREEK WORDS IN PELAGONIUS, AND RETRANSLATION OF APSYRTUS

The prevalence, in Pelagonius' text, of Greek terminology will have facilitated the translator's task. Adams has estimated that approximately 25 per cent of Pelagonius' pathological terms are Greek in origin;¹⁰¹ to this figure we may also add names for procedures, *materia medica*, and measurements. This proportion is comparable to Langslow's estimates for the writing of Celsus or Scribonius Largus.¹⁰² Pelagonius' text contains many Greek words in transliteration. Most of these are medical terms of Greek derivation, for example, *synchrisma*; this term may not have been common or in active use in Greek, since it is rendered as *μάλαγμα*. *Brecta* is taken over from Apsyrtus in a slightly artificial use of the 'medical Latin' device of the synonym.¹⁰³

Pelagonius' text also contains Greek words in Greek letters. In one case, his phrasing seems to reflect the use of a Latin medical writer who, in turn, was referring to a Greek source:

Graeci ita dividunt *ἀρθρίτιν, ὑγράν, ξηράν, λευκὴν, μέλαιναν*, quae Latini articulem, umidam, siccam, albam, nigram appellant.¹⁰⁴

The Greeks divide it thus, into *arthritike, hygra, xera, leuke, melaina*, which the Latins call arthritic, humid, dry, white, black.

But in many cases Pelagonius' use of the Greek text of Apsyrtus seems to have influenced his decision to retain Greek phrases. For example, Pelagonius uses several Greek terms from Apsyrtus' cures for *tetanos*: comparison of the texts makes it clear that any of Pelagonius' claims of personal experience should be taken with a pinch of salt.¹⁰⁵

⁹⁹ Eum. M536 = B6.4, *CHG* I p. 44; *προποτίζω* also occurs in *Geop.* XIII.8.9.

¹⁰⁰ E.g. M433 = B62.4, *CHG* II p. 212; M56 = *CHG* II p. 36.

¹⁰¹ *Pelagonius*, 332. ¹⁰² Langslow, *Medical Latin*, 77.

¹⁰³ Pel. Lat. 24.2; not translated in Greek: M91 = B68.6, *CHG* I p. 266, though the word *βρέξον* is used.

¹⁰⁴ Pel. Lat. 204.

¹⁰⁵ Aps. M316 = B34.2, *CHG* I p. 178; Pel. Lat. 268; Pel. B34.22, *CHG* I p. 189.

Aspyrtus

καὶ τοῦτο δὲ λέγεται
πεπέρεως κόκκους δέκα, καὶ
κάχρυς τὸ ἴσον, νίτρου
κεράτια ις' (ὀλκὴν μίαν B),
ὁποῦ Κυρηναϊκοῦ κνάμου τὸ
μέγεθος, ταῦτα τρίψας καθ'
ἐν, καὶ πάλιν ἐν
ταυτῷ . . . ἐγχυματίζειν.

. . . ταῦτα μὲν οὖν ἐκείνοις
εἶρηται μεγάλοις ἀνδράσιν.
ἡμεῖς δὲ ἐχρησάμεθα
βοηθήμασι καὶ τούτοις·
στέατος ὑείου στατήρας ις',
καὶ ἀρκείου καὶ αἰγείου τὸ
ἴσον . . .

And this is said too: ten
peppercorns, and the same
amount of kachry, 16 carats
[one holke B] of natron,
silphium-sap the size of a
bean, grind these one by one
and then all together . . . and
administer as a drench.

That much has been said by
those great men. We also use
the following remedies: 16
staters of pork fat, and the
same amount of bear and
goat fat . . .

Pelagonius

facit etiam et haec potio:
piperis grana X, cedriae ut
supra pondus, nitri ὀλκὴν
unam, ὁποῦ Κυρηναϊκοῦ
κνάμου μέγεθος. haec omnia
terito singula et in unum
misceto . . . et . . . potionas.

. . . haec multi et magni viri
prodesse dixerunt, nos et
consuetudine et usu potius
haec profuisse et prodesse
memoramus: adipis porci-
nae scrp. XVI, adipis capri-
nae scrp. IIII . . .

And this drench will also do:
10 peppercorns, the same
weight of cedar oil, one
holke of natron, *opou Kyre-
naikou kyamou megethos*.
Each of these is to be ground
separately and mixed
together . . . and . . . adminis-
ter it a drench.

Many men, and great ones,
say that these things are
useful; we, through habit
and practice, mention that
this was and is more useful:
16 scruples of pork fat, four
of goat fat . . .

Pelagonius in Greek

ποιοῦσι δὲ καὶ προπότισμα
τόδε· πεπέρεως κόκκους
δέκα, νίτρου γὼ α', ὁποῦ
Κυρηναϊκοῦ κνάμου
μέγεθος· ταῦτα πάντα κατὰ
μόνας λειώσας καὶ μίξας . . .
προπότιζε.

. . . πολλοὶ δὲ καὶ τοῦτο
συμβάλλεσθαι λέγουσιν,
ὅπερ καὶ ἡμῖν διὰ πείρας
ἐλήλυθεν. στέατος χοιρείου
γράμματα ις', στέατος
αἰγείου γράμματα ις' . . .

They also make this potion:
ten peppercorns, an ounce
of natron, silphium-sap the
size of a bean: having
crushed each of these on its
own and mixed them, ad-
minister as a potion.

Many people say that this is
also helpful, it has come to
us too through experience.
16 grams of pork fat, 16
grams of goat fat . . .

Where Pelagonius' text contains Greek words, the translator, logically, leaves them unchanged. Here the Greek words are not presented as synonyms, but are incorporated into sentences in a slightly awkward way, written in Greek letters. D. R. Langslow has observed that this appears to be the only instance of 'code-switching' in Latin medical literature.¹⁰⁶ It is not entirely clear why Pelagonius in these instances chose to retain the Greek words. Perhaps he was trying to convey something of the character of his source; alternatively, he may simply have been unsure of the Latin equivalents for

¹⁰⁶ 'Approaching Bilingualism in Corpus Languages', in J. N. Adams, M. Janse, and S. Swain (eds.), *Bilingualism in Ancient Society* (Oxford, 2002), 38–9.

some unusual terms. They are not only medical terms, but also measurements. 'Ολκή appears only in this instance in the Latin text, as does the reference to the size of a bean. In the case of silphium-juice, he could have used *laser* or *silpium*, as he does elsewhere.¹⁰⁷ The ingredient may have seemed exotic; Pliny indicates that silphium was already rare or extinct in his time, and Columella, too, uses the word σίλφιον in Greek.¹⁰⁸ In the same list of remedies, Apsyrtus recommends a μάλαγμα τὸ διὰ βδελλίου; Pelagonius again repeats the Greek phrase.¹⁰⁹ Bdeillum (an aromatic gum) appears in only one other place in Pelagonius' text, as *della*.¹¹⁰ The other term that appears in Greek letters is γλοιὸς παιδικός, similarly taken over from Apsyrtus (the only use listed in LSJ). It is initially explained as *quod Graeci dicunt γλοιὸν παιδικόν*, and subsequently incorporated into a Latin sentence, oddly, with a Greek conjunction:

acetum acre καὶ γλοιὸν παιδικόν et picis liquidae modicum.¹¹¹

sharp vinegar *kai gloion paidikon* and a little bit of liquid pitch.

Then there are other transliterated words peculiar to Pelagonius' text. In the Latin text, a number of items are labelled 'apopiras Pelagoni', a formulation evidently derived from ἀπὸ πείρας. According to Fischer, this phrase represents an interpolation by a later editor; Adams has pointed out that the phrase occurs in the Einsiedeln MS as well.¹¹² It does not appear in the Greek version of Pelagonius; but since many of the lemmata and introductory phrases are not present in the *Hippiatrica*, this absence is not conclusive proof that the phrase is an interpolation. Adams has identified *filocalus* as a 'vogue term' used by horse-doctors;¹¹³ it seems in Pelagonius' text to be an affectation of a writer who, while both translating and imitating a Greek model, wants to emphasize the flavour of Greek in his text. Interestingly, *filocalus* is not present in the Greek version of Pelagonius,¹¹⁴ although forms of the word do occur in Anatolius and Theomnestus.¹¹⁵ *Diligens*, another Pelagonian mannerism (is it Pelagonius' translation of φιλόκαλος?), is consistently rendered as ἐπιμελής,

¹⁰⁷ Pel. Lat. 200; Pel. Lat. 338.

¹⁰⁸ See Fischer's commentary ad loc.

¹⁰⁹ Aps. M316 = B34.3, *CHG* I p. 179; Pel. Lat. 269.

¹¹⁰ Pel. Lat. 329.

¹¹¹ Pel. Lat. 347–8; Aps. M291 = B69.1–2, *CHG* I p. 269.

¹¹² Fischer, 'The First Latin Treatise', 219, Adams, *Pelagonius*, 150.

¹¹³ 'Filocalus as an Epithet of Horse Owners in Pelagonius: Its Origin and Meaning', *Classical Philology*, 85 (1990), 305–10; *Pelagonius*, 572. Pel. Lat. 188 = M566 = B67.3; Pel. Lat. 183 = M556 = B62.5.

¹¹⁴ Pel. Lat. 188; M566 = B67.3, *CHG* I p. 263.

¹¹⁵ Anatolius M84 = B14.9, *CHG* I p. 83 = *Geop.* XVI.21.6 and 9; *Geop.* V.26.10. Also Theomn. M537 = B7.7, *CHG* I p. 47.

diligenter, as ἐπιμελῶς,¹¹⁶ *diligentior*, as ἐπιμελέστερον¹¹⁷ and *diligentissimum nutritorem equorum . . . convenit* as χρῆ τὸν ἐπιμελέστατον ἱππότροφον.¹¹⁸

LATIN SYNONYMS IN GREEK

Where Latin plant-names are repeated in the Greek translation, they are given, as in Latin, in a relative clause.¹¹⁹ Some are relics of synonym-pairs in Pelagonius, where the Greek word comes from Apsytus:

Aps. ἡ πράσιον τρίψαντας μετὰ ἐλαίου καὶ ἀλὸς οἴνω διέντας ὁμοίως ἐγχυματίζειν (or, grinding horehound with oil and salt, and diluting with wine, administer as a drench in the same manner).

Pel. Lat. Item aliter. πράσιον quod Graeci appellant, Latini herbam marrubium, deteris et cum oleo, modico sale et vino sucido commiscet et potionas. (Also, otherwise: grind what the Greeks call *prasion*, and the Latins horehound, and mix it together with oil, a little salt, and fresh wine and administer as a drench.)

Pel. Gr. ὁμοία θεραπεία. πράσιον βοτάνην, ἣν Ῥωμαῖοι καλοῦσι μαρρουβίαν, λείωσον καὶ μετὰ ἐλαίου ὀλίγου καὶ ἄλατος, οὐ μὴν ἀλλὰ καὶ οἴνου γλυκέος μίξον καὶ οὕτως ἐγχυμάτισον.¹²⁰ (Similar treatment. Crush the herb horehound, which the Romans call *marroubia*, and mix with a little oil and salt, nay even also with some sweet wine too, and administer thus as a drench.)

Other synonyms in the Greek have no antecedent in the existing Latin text of Pelagonius, and may be an interjection of the translator.

Pel. Lat. herbam urciolariam (pitcher-plant)

Pel. Gr. βοτάνην, ἣν Ἕλληνες μὲν περδίκιον, Ῥωμαῖοι δὲ ὀρkiολαρέμ ὀνομάζουσιν¹²¹ (the herb which the Greeks call partridge-plant, and the Romans *orkiolarem*)

Pel. Lat. et folia tenera herbae parietariae (and tender leaves of the herb *parietaria*)

Pel. Gr. φύλλα βοτάνης σιδηρίτιδος, ἣν Ῥωμαῖοι παριηταρίαν καλοῦσι οὐ μὴν ἀλλὰ καὶ ἔψημα . . .¹²² (leaves of the herb ironwort, which the Romans call *parietaria*, nay even also reduction of must).

¹¹⁶ e.g. Pel. Lat. 308.1 = M436 = B42.7, *CHG* I p. 213.

¹¹⁷ Pel. Lat. 183 = M556 = B62.5, *CHG* I p. 254.

¹¹⁸ Pel. Lat. 267 = B34.21, *CHG* I p. 188.

¹¹⁹ On such constructions, see Langslow, *Medical Latin*, 80 ff.

¹²⁰ Aps. M458 = B22.1, *CHG* I p. 103; Pel. Lat. 93 = M499, *CHG* II p. 68.

¹²¹ Pel. Lat. 112 = M520, *CHG* II p. 69.

¹²² Pel. Lat. 89 = M496 (altered in B22.34), *CHG* I p. 113.

The translator uses the same formula in some other cases in which an obviously foreign word is retained. For example, *potio quadrigaria*, ‘the charioteer’s drench’, is explained as προπότισμα τὸ παρὰ Ῥωμαίοις κουδριγάριον καλούμενον, ‘the potion which is called by the Romans *koudrigarion*’, and *synchronisma quadrigarum* as σύγχρισμα ἄρματος ὅπερ κουδριγάριον καλεῖται, ‘ointment of the chariot, which is called *koudrigarion*’.¹²³ The phrasing in these translated and retranslated passages is reminiscent of the allusion to ‘Greek and Roman’ names for glanders that we have seen in Eumelus’ text.

FORMULAIC PHRASES

There is little of what may be called ‘official’ language in Pelagonius; and most of the few examples of titles, such as *vir clarissimus*, are omitted even when the names they accompanied appear in the lemmata of the Greek translations. But in the most completely preserved of Pelagonius’ letters in the *Hippiatrica*, the phrase *apud claritatem tuam* is rendered by παρὰ τῇ σῇ κοσμιότητι.¹²⁴ Δεσπότης, in another passage, is a standard translation of *dominus*.¹²⁵ A number of other formulaic phrases appear in Pelagonius’ letters, for example the openings of the letters: a greeting preserved in the *Hippiatrica* renders *Pelagonius Arzygio suo* in standard Greek style as Πελαγώνιος Ἀρζυγίῳ ἰδίῳ χαίρειν.¹²⁶ (*Suo* is not preserved in the Latin.) However, the disclosure formula *congruum est addiscere*—referring to Apsyrtus’ Greek—is translated back as χρή μαθεῖν, rather than using the conventional γιγνώσκω.¹²⁷

LATIN LOANWORDS IN THE GREEK VERSION

The adoption of common Latin words into Late Antique Greek also aided the translator, who seems not to have been concerned by the injunctions of the purists against using such words. The most common loanword in the Greek version of Pelagonius is probably στάβλον, ‘stable’;¹²⁸ Pelagonius also uses the

¹²³ Pel. Lat. 367 = M805 = B129.43, *CHG* I p. 395; Pel. Lat. 453 = M1003, *CHG* II p. 96.

¹²⁴ Pel. Lat. 216 = M995, *CHG* II p. 95.

¹²⁵ Pel. Lat. 283 = M692 printed as an addition to B86.3, *CHG* I p. 309. See Dickey, ‘Kyrīe, Despota, Domine’.

¹²⁶ Pel. Lat. 302 = M433 = B42.4, *CHG* I p. 212.

¹²⁷ Pel. Lat. 4 = M41 = B4.1, *CHG* I p. 34.

¹²⁸ e.g. M91 (altered in B68.6), *CHG* I p. 266; M330 (altered in B34.26), *CHG* I p. 191.

verb *stabulare*, which is rendered as σταβλίζω (consistently deleted in the B recension).¹²⁹ *Furnus*, ‘oven’, appears in Greek as φούρνος,¹³⁰ and the medical term *pastillus* ‘pastille’ as πάστιλλος.¹³¹

MAGIC

We may wish, with Ihm, that the various editors of the *Hippiatrica* had been more superstitious: it is evident that Pelagonius’ treatise, just as that of Apsyrtus, contained many magical remedies, not all of which have been preserved. Some of these exist only in the Latin text, others only in the Greek, so it is impossible to determine whether all were included in the translation. Some types of magic translated more easily than others, but the forms of incantations—*evocationes morborum*, *adynata*—and the ἐφέσια γράμματα and iconography of amulets belonged to a common culture. Thus we see that it was possible to translate the following incantation against the bites of noxious creatures:¹³²

Pelagonius

sed et verba religiosa non desint, nam Sol peculiariter dominus equorum invocatus ad medellam adest. quem hoc modo, cum terram talparum coeperis tollere, invocabis: ictu, Sol divine calide et frigide, tantum mihi abalienisti.

Let not the pious words be lacking, for the Sun is the special lord of horses, and he will come when invoked to cure. You will invoke him in this manner, when you begin to pick up the earth of the moles: Divine Sun, hot and cold, this much you took from me.

Pelagonius in M

μη δὲ θεοφιλή (ἐλλίπη corr. Oder-Hoppe) λιπαρή ρήματα. ὁ γὰρ Ἥλιος τῶν ἵππων ἰδικός ἐστι δεσπότης καὶ χαίρων πρὸς τὴν τούτων ἔρχεται θεραπείαν, ἐπικαλούμενος οὕτως. ὅτε τὴν γῆν λαμβάνεις, λέγε Δέσποτα Ἥλιε θερμὲ καὶ ψυχρὲ, τοσοῦτόν με ἀπηλλοτρίωσας

Let not the pious words be lacking, for the Sun is the special lord of horses and will gladly come for their cure, invoked in this way. When you take up the earth, say, Lord Sun, hot and cold, this much you took from me.

The description of an amuletic ring, preserved only in the Greek translation, has a parallel in Alexander of Tralles.¹³³

¹²⁹ e.g. Pel. Lat. 442 = M412 (altered in B11.44), *CHG* I p. 71.

¹³⁰ Pel. Lat. 18 = M46 = B4.6, *CHG* I p. 35; Pel. Lat. 52 = M656 = B103.17, *CHG* I p. 359.

¹³¹ Pel. Lat. 71 = B7.4, *CHG* I p. 45.

¹³² Pel. Lat. 283; M692 printed as an addition to B86.3, *CHG* I p. 309; Heim 113.

¹³³ Ed. Puschmann II p. 377; Heim, *Incantamenta*, no. 57: Λαβὼν δακτύλιον σιδηροῦν.

(Πρὸς ὀζαίνας) δακτυλίδιον σιδηροῦν ἔχον γλύμμα λέοντος καὶ ἐπάνω ἀστέρα ὑποκάτω τῆς γούλας κρέμασον καὶ θαυμάσεις.¹³⁴

(For fetid nasal polyps) Hang under its throat an iron ring having on it a carving of a lion with a star above, and you'll be amazed.

Instructions for inscribing another amulet did not fare well in the transmission of the Latin text. The mention of a *cassiterine lamella*, similar to a passage in Apsyrtus, may imply that this spell was taken over from Apsyrtus. If so, the inscription may have been in Greek, perhaps the reason that it was not copied.¹³⁵

¹³⁴ M206, CHG II p. 42.

¹³⁵ Pel. Lat. 135.2; cf. Aps. M1026.

Theomnestus

THEOMNESTUS appears to have been a keen horseman, with a solid grounding in medical theory as well as experience of veterinary practice. He is the only author in the *Hippiatrica* to include in his treatise instructions for grooming and breaking in addition to veterinary treatments.¹ He is also the only author who speaks of his own horses; he does so with affection. Theomnestus' work belongs to the tradition of the texts that we have already examined: his description of the points of the horse, of grooming, and breaking alludes to the words of Xenophon and Simon; it also presents close parallels to the agricultural writers, which suggests that one of these, probably Cassius Dionysius, was an intermediary. For veterinary material, Apsyrtus is his principal source; but Theomnestus also writes from his own experience. His is the only treatise that includes case-studies, and the only one that does not include any magic or superstition at all.

THEOMNESTUS' TEXT

Fourth in the sequence of authors in M, Theomnestus is responsible for 72 excerpts in that recension. A number of these excerpts are attributed to other authors in the lemmata; these are, however, quotations, 'embedded' by Theomnestus in his text. The *πίναξ* of Parisinus gr. 2322 signals the existence of an additional excerpt on vomiting through the nose which does not appear in the manuscript.² In the B recension, all the excerpts from Theomnestus in M are present, grouped with those of Apsyrtus and Hierocles as though to emphasize their similarity. Whereas the prooimia of both Apsyrtus and Hierocles are displayed, so to speak, at the beginning of B, there is no trace in the Greek of a corresponding introduction by Theomnestus. In B, his name has been omitted from the lemmata of 29 excerpts;³ moreover, the text of

¹ See K. Hoppe, 'Theomnestus', *RE Suppl.* VII (Stuttgart, 1940), cols. 1353–4; G. Björck, 'Zum *CHG*', 54–5.

² Table of contents, 737, *CHG* II p. 16.

³ A list of these is given in *CHG* II p. x.

the excerpts has been subjected to some stylistic reworking, and a number of details have been omitted, especially from the autobiographical passages. The CL recension adds an important passage on the choice, care, and early education of a young horse, as well as an additional chapter on dysury which is not present in M or B.⁴

THE ARABIC TRANSLATION OF THEOMNESTUS

A *Kitāb al-Bayṭara* ('Book on Horse-Medicine') attributed to Theomnestus provides additional evidence against which we may compare what survives of the Greek. The Arabic text is preserved in two manuscripts: Istanbul, Köprülü 959, dated AH 674 (1276),⁵ and Parisinus ar. 2810, dated AH 750 (1349).⁶ Bodley 540 (formerly Pococke 360), identified by Björck and Sezgin as containing the treatise of Theomnestus, in fact contains the treatise on horsemanship by Ibn Akhī Ḥizām.⁷ US National Library of Medicine MS. A90 (undated), described in an old catalogue as a *Kitāb al-Bayṭara* attributed to Ḥunayn, is also a different text.⁸

The existence of the translation of Theomnestus has been known for some time, and its potential as a source of evidence for the history of the Greek text has been repeatedly mentioned.⁹ There is, however, no edition of the Arabic text; nor is there any mention of it, for example, in a recent *Encyclopedia of the History of Arabic Science*.¹⁰ A single short passage from the introduction has been published in German translation, on the basis of the Istanbul manuscript only, by F. Rosenthal.¹¹ And several fundamental questions about the Arabic text remain unanswered. Is the text indeed a translation of Theomnestus, or is it based on a compilation which included excerpts from his work? It has been shown that a number of Arabic texts of Hippocratic works are in fact patched together out of passages quoted by Galen in his commentaries on the various

⁴ C93.12–17 and 18–22, *CHG* II pp. 231 ff.

⁵ R. Şeşen, C. Izgi, C. Akpınar, *Fihris makhṭūṭāt Maktabat Kāprılı*, I (Istanbul, 1986), 488.

⁶ W.M. de Slane, *Catalogue des manuscrits arabes de la Bibliothèque nationale* (Paris, 1883), 506.

⁷ J. Uri, *Bibliothecae Bodleianae codicum manuscriptorum orientalium ... catalogus* (Oxford, 1787), 130.

⁸ Dr E. Savage-Smith kindly allowed me to see her description of this MS for the new catalogue of the US National Library of Medicine.

⁹ G. Björck, 'Griechische Pferdeheilkunde in arabischer Überlieferung', 11–12; M. Ullmann, *Die Medizin in Islam* (Leiden and Cologne, 1970), 218–19; F. Sezgin, *Geschichte des arabischen Schrifttums* (Leyden, 1970), III. 353–4. K.-D. Fischer, 'Ancient Veterinary Medicine', 195.

¹⁰ Ed. R. Rashed (London and New York, 1996).

¹¹ F. Rosenthal, *Das Fortleben der Antike im Islam* (Zurich, 1965), 278–9.

texts. In his *Risāla* or Letter on the translations of Galen, Ḥunayn describes how he translated the Hippocratic passages embedded in Galen's commentary on the treatise *On Airs, waters, places*.¹² In this case, both the existing Arabic text of the *Airs, waters, places* and the Latin translation from it have been shown to contain vestiges of Galen's commentary in addition to the Hippocratic passages; the translations are therefore useful only as witnesses to the secondary, Galenic tradition of that text.¹³ Of course, it is easier to divine the motivation behind collecting fragments written by the 'father of medicine' than to suppose that such an effort would have been made to put together the pieces of a Theomnestus. And yet, the effort appears to have been made for Hierocles' text, as we shall see; and in that instance Latin translations were made from the reconstituted Greek. One must also ask whether the contents of the translation represent a complete text of Theomnestus, or whether there are additions or subtractions: since the Greek text is preserved in a dismembered state, this is obviously difficult to ascertain. Thirdly, are the chapters presented in their original order? Cross-references in the Greek give some idea of the original structure of the treatise. And there is a fourth question: in both the Paris and Istanbul manuscripts, the translation is attributed to Ḥunayn ibn Ishāq, perhaps the most illustrious translator of Greek texts into Arabic, whose versions of the works of Plato, Aristotle, Galen, and Hippocrates helped create the foundation for medieval Arabic philosophy and medicine.¹⁴ A *Kitāb al-Bayṭara* is included at the end of the list of Greek works translated by Ḥunayn in the history of medicine of Ibn Abī Uṣaybi'a (d. 1270);¹⁵ Ḥunayn's translation of a veterinary work is also mentioned by the sixteenth-century bibliographer Taṣköprüzade.¹⁶ G. Gabrieli and M. Meyerhof identify Ḥunayn's translation with the Arabic version of Theomnestus' treatise.¹⁷ Dr. F. Zimmerman, who kindly examined

¹² J. Jouanna, 'Remarques sur la tradition arabe du commentaire de Galien aux traités hippocratiques des Airs, eaux, lieux, et du Serment', in J. A. López Férez (ed.), *Galeno: obra, pensamiento, e influencia* (Madrid, 1991), 235 ff. H. Diller, *Hippocratis De aere, aquis locis* (Berlin, 1970), 9–10; idem, *Die Überlieferung der hippokratischen Schrift Περὶ ἀέρων ὑδάτων τόπων*, *Philologus* Suppl. 23.3 (1932), 104–5; 113–14. Cf. Irigoín, 'Les traductions arabes'.

¹³ G. Strohmaier, 'Der arabische Hippokrates', *Sudhoffs Archiv*, 64.3 (1980), 234–49.

¹⁴ G. Gabrieli, 'Hunain ibn Ishaq', *Isis*, 6 (1924), 282–92; M. Meyerhof, 'New Light on Hunain ibn Ishaq and his Period', *Isis*, 8 (1926), 685–724; idem, 'Von Alexandrien nach Baghdad', *Sitzungsberichte der Preuss. Akad. der Wiss., Philol.-hist. Kl.* (1930), 403 ff. D. Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and early 'Abbāsīd Society (2nd–4th/8th–10th centuries)* (London, 1998).

¹⁵ 'Uyūn al-anbā' fī ṭabaqāt al-aṭibbā', ed. A. Müller (Königsberg, 1882–4), I. 200.

¹⁶ Ahmed b. Mustafa Taṣköprüzade, *Miftāḥ al-sā'ada wa-miṣbāḥ al-siyāda fī mawḍū'āt al-'ulūm*, ed. K. K. Bekri and A. Abu al-Nur (Cairo, 1968), I. 330.

¹⁷ 'Hunayn ibn Ishaq', 287, M. Meyerhof, 'Les versions syriaques et arabes des écrits galéniques', *Byzantion*, 3 (1926), 44.

the translation of Theomnestus, concludes (in a letter of 19 Aug. 1998) that 'there seems to be nothing against, and something to be said *for*, accepting the attribution to (the school of) Ḥunayn.'

Björck's identification of parallels between the excerpts attributed to Theomnestus in the *Hippiatrica* and passages of the twelfth-century agricultural compilation of the Sevillian Ibn al-'Awwām provides an indication of the influence of Greek texts on Arabic veterinary science.¹⁸ The literary tradition of medieval Arabic veterinary medicine appears—as is the case with human medicine—to have been based upon an 'appropriation and naturalization', to use A. I. Sabra's terms, of Greek texts on the subject.¹⁹ Indeed, the very word for horse-doctor used in Arabic from the eighth century, *bayṭar*, comes from the Greek *ἵππιατρός*.²⁰ The *Fihrist* of the bookseller and copyist Al-Nadīm lists a number of treatises on horses and veterinary medicine attributed to Greek authors, and available in Arabic in tenth-century Baghdad.²¹ Ibn al-'Awwām appears to have used material from Greek sources via the *Kitāb al-Furusiyya wa'l Bayṭara* of Ibn Akhī Ḥizām. Muḥammad ibn Ya'qūb ibn Ghālib ibn 'Alī al-Khuttālī, known as Ibn Akhī Ḥizām after his uncle Ḥizām ibn Ghālib, stablemaster to the caliph al-Mu'taṣim, composed his treatise on horsemanship and veterinary medicine in the second half of the ninth century; according to al-Nadīm, it was written for the caliph al-Mutawakkil (847–61),²² The translation of Theomnestus would appear to have been produced by this date.²³ Ibn Akhī Ḥizām was also a source for a thirteenth-century Armenian manual of horse medicine.²⁴

The relation of the Arabic text to the Greek will be discussed elsewhere, at greater length, by Robert Hoyland and myself; however it will be useful to summarize our conclusions here.²⁵ The Arabic text appears to reflect a stage closer to the original treatise of Theomnestus than do the fragments of the

¹⁸ 'Zum CHG', 45–53.

¹⁹ A. I. Sabra, 'The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement', *History of Science*, 25 (1987), 223–43.

²⁰ M. Plessner, 'Bayṭar', in *The Encyclopedia of Islam*, 2nd edn., vol. I (Leiden, 1960), p. 1149; Ullmann, *Die Medizin in Islam*, 217–18.

²¹ B. Dodge (tr.), *The Fihrist of Al-Nadim* (New York, 1970), 738–9.

²² Dodge, *The Fihrist*, *ibid*.

²³ See V. Weidenhofer, 'Ninth Century Arabian Horse Medicine: The *Kitāb al-furusiya wa-l-bayṭara* of Muḥammad ibn Ya'qūb ibn Akhī Ḥizām al Khuttālī', in M.-T. Cam (ed.), *La Médecine vétérinaire antique* (Proceedings of the colloquium on ancient veterinary medicine held at the Université de la Bretagne occidentale, 9–11 Sept. 2004), forthcoming.

²⁴ J. Dum-Tragut, *Kilikische Heilkunst für Pferde: Das Vermächtnis der Armenier* (Hildesheim, Zurich, and New York, 2005).

²⁵ Dr Hoyland has already published some of our conclusions in 'Theomnestus of Nicopolis, Ḥunayn ibn Ishāq, and the beginnings of Islamic veterinary science', in R. G. Hoyland and P. F. Kennedy (eds.), *Islamic Reflections, Arabic Musings: Studies in Honour of Professor Alan Jones* (Oxford, 2004), 150–69.

Greek. It contains a preface in which Theomnestus, described as a native of Nicopolis (Meyerhof's reading of Magnesia is incorrect), dedicates his work to a certain 'ῥκndws', 'Quintus' or 'Ignatius'. The Arabic text is more extensive than the Greek, consisting of 96 chapters. Since the lemmata of the chapters of the Arabic treatise contain names in addition to that of Theomnestus, Björck raised the question of whether the translation was made from an edition augmented with passages from other authors. His conclusion was that since, in the Greek text, Theomnestus quotes from other works, the lemmata of the Arabic may reflect this use of sources;²⁶ this conclusion appears to be correct. Chapters not present in the Greek consist for the most part of quotations from Apsyrtus, a feature which sheds light not only on Theomnestus' method of composing his treatise, but also on the elimination of repetitive material by editors of the *Hippiatrica*. The final excerpts consist of lists of recipes.²⁷ The translation, attributed in the colophons of both manuscripts to Ḥunayn ibn Isḥāq, is *ad verbum* and skilfully executed, with few misunderstandings. It conveys a sense of Theomnestus' style, especially his use of certain formulaic phrases. Some passages are abbreviated, and there are a few omissions, for example, of etymologies, and of the material on caring for and training a young horse.

Theomnestus is best known for providing what has been called 'the only firm and undisputed date in ancient veterinary medicine';²⁸ and a single passage of his text, from the excerpt on '*tetanos*', has been cited repeatedly in this context.²⁹ As we have seen in our discussion of Apsyrtus, it seems certain that Theomnestus travelled with Licinius, though his exact chronological relationship to Apsyrtus remains unclear. The *terminus post quem* for the composition of the treatise is 313; however, Björck's proposal of a *terminus ante quem* of 324, when Licinius was defeated, is not beyond doubt. If Licinius were still co-emperor at the time Theomnestus was writing, one might expect him to be mentioned by name, rather than alluded to obscurely as βασιλεύς. Licinius' disgrace might indeed be taken as a *terminus post quem*. The striking absence of magic from Theomnestus' treatise may be another indication of date: while it may simply be a reflection of the author's personal distaste for irrational remedies, it might equally be a response to political climate, if Theomnestus were writing somewhat later in the fourth century, during the

²⁶ 'Griechische Pferdeheilkunde in arabischer Überlieferung', 11–12.

²⁷ Corroborated by a reference in M183 (altered in B26.6), CHG I p. 127: χρῆσθαι ἀνακολλήματι, ὅπερ ἐπὶ τέλους τῇ συγγραφῇ ἐκτεθίσεται.

²⁸ Fischer, 'Ancient Veterinary Medicine', 196.

²⁹ Haupt, 'Varia, LIV', 23–5; Björck, 'Apsyrtus', 7–12; Doyen-Higuet, 'The *Hippiatrica* and Byzantine Veterinary Medicine', 111–13; Fischer, 'Ancient Veterinary Medicine', 196. Barnes, *The New Empire of Diocletian and Constantine*, 81.

reign of Constantius II, when the practice of magic by charioteers and even for healing was prosecuted, and books suspected of containing magic burnt.³⁰

But there is more to Theomnestus' work than just a date. Even in its present fragmentary condition, the text is suffused with its author's personality. Theomnestus was evidently a practising veterinarian; and his references to humoral theory, his taste for definitions, interest in aetiology, and organized approach to writing suggest that he had a formal medical education. Theomnestus makes frequent reference to written sources, citing Apsyrtus and a number of other authors. One of these, a certain Cassius, has been identified as Cassius Dionysius of Utica.³¹

Theomnestus conveys a sense of immediacy through continual use of the first and second person; he also places considerable emphasis on his own experience. In two passages he illustrates his accounts of medical conditions with reminiscences: these are the only case-histories included in the *Hippiatrica*. The first is the description of 'tetanos' which we have considered in the context of Apsyrtus' date. It is worth returning to this passage, as it conveys some sense of Theomnestus' character, as well as of the logistics and perils of travel on horseback.³² It is a vignette of an imperial retinue crossing the Alps in winter—Theomnestus vividly sketches the details of the grim scene:³³

ὁ τέτανος τοῖς ἵπποις καὶ τοῖς ἄλλοις ὑποζυγίοις οὐκ ἄλλως ἢ ἀπὸ ψύχους γίνεται, ὅταν τὰ στερεὰ πάθῃ καὶ νευριτικὴν συμπάθειαν ὑπομείνῃ. καλεῖται δὲ τέτανος ἀπὸ τοῦ τετάσθαι ὄλον τὸ σῶμα, μάλιστα μὲν ἀπὸ τῆς κεφαλῆς καὶ ὠτων καὶ τραχήλου. μέχρι δὲ τότε ζῇ, ἕως ἣ καρδία οὐ ψύχεται, ψυχέσεως δὲ διαφωνεῖ.

τοῦτο δὲ ἔγνω ἔγὼ γενόμενος ἐπὶ . . . ἡμέρας κατὰ Κάρνον τῆς Παννονίας, βασιλεῖ παρεπόμενος καὶ ὡς φίλος σὺν αὐτῷ διάγων. ἀθρόως οὖν ἠπείχθη διὰ γάμον, καὶ ἀπὸ τῆς Κάρνου κατ' ἀρχὰς τοῦ Φεβρουαρίου μηνὸς ὤδευσε τεταμένως εἰς τὴν Ἰταλίαν, ὡς δύο καὶ τρεῖς μονὰς μίαν ποιήσαι.

διελθόντων δὲ ἡμῶν πᾶσαν τὴν Νωρικὸν καὶ λοιπὸν ἐπὶ τὰς Ἀλπεῖς ἐπιβάντων τὰς Ἰουλίαις καλουμένας, χιὼν ἐξαίφνης κατερράγη πολλὴ περὶ πρώτων ὤραν, ἀναβαινόντων τὰς Ἀλπεῖς. τότε καὶ οἱ στρατιῶται ἐπὶ τοῖς ἵπποις παγέντες ἀπώλλυντο, καὶ ἔμενον

³⁰ Ammianus Marcellinus 19.12, 29.2 (events of 357–9); see Dickie, *Magic and Magicians in the Graeco-Roman World*, 253–7. Charioteers were severely punished for dabbling in magic in the 360s and 370s; A. Cameron, *Porphyrius the Charioteer* (Oxford, 1973), 245.

³¹ Excerpts on ailments of the lung, heart, and liver are attributed to him; included among the Mago fragments in Speranza, *Scriptorum romanorum de re rustica reliquiae*, nos. 54–6, pp. 112–13.

³² A German translation of this passage has been published by E. Oder, 'Winterlicher Alpenübergang eines römischen Heeres nach der Schilderung eines griechischen Veterinärs', *Veterinärhistorisches Jahrbuch*, 1 (1925), 48–50; also an English translation by myself, 'Horses and Horse-Doctors on the Road', in R. J. Macrides (ed.), *Travel in the Byzantine World*, Proceedings of the 34th Spring Symposium of Byzantine Studies (London, 2002), 95–7.

³³ M319 = B34.12–14, *CHG I* pp. 183–5.

ἐπὶ τῶν ἵππων συντεταμένοι. σημείον δὲ ἦν τοῦ τεθνηκέναι αὐτοὺς· σπωμένων γὰρ τῶν χειλῶν, οἱ ὄδοντες ἐφαίνοντο, καὶ συνέβαινεν τὸν ἵππον ἔτι ζῆν. ἔφερον τὸν νέκυν τοῦ στρατιώτου καὶ ἔπετο, ὁ δὲ νέκυσ κατεῖχεν καὶ τὸ ὄπλον καὶ τὴν ἡνίαν, καὶ τεταμένους ἔμενεν, τρόπον τινὰ συμπεφυκὼς τῷ ἵππῳ, ὥς ἔργον εἶναι τοῖς ζῶσι καθελεῖν αὐτόν. εἰ δὲ καὶ ὁ ἵππος συντεθνήκοι, παγεῖς εἰσθήκει καὶ ἀπέμενεν. ταῦτα μὲν ἔπαθον πολλοὶ καὶ ἄνδρες καὶ ἵπποι καὶ ἡμίονοι. μόνοι δέ, ὅσοι πρὸ βασιλείως εἰς τὰς πόλεις προεπέμποντο ἡμεροδρόμοι, οὔτε αὐτοὶ ἀπέθανον οὔτε οἱ ἵπποι αὐτῶν. φανερὰ δὲ ἦν ἡ αἰτία· ἡ γὰρ συνεχὴς κίνησις ἔθαλπε τὸ ψυχρὸν καὶ ἐξωποίει.

ἵππος οὖν τότε ἐμὸς τῶν σπουδαίων, ἐφ' ὃν νεανίσκος ἐκάθητο, ἐλήφθη τῷ τετάνῳ. καὶ σφόδρα με τὸ πράγμα ἐλύπει· οὐδὲν γὰρ ἵππου καλοῦ καὶ γοργοῦ προκριτέον. ἦν δὲ ὁ ἵππος Γαλλικὸς ἐτῶν ὀκτώ, τῷ δρόμῳ ἀκατάσχετος περὶ τοὺς ἐλάφους. σφόδρα οὖν ἐμέλησέ μοι σῶσαι τὸν ἵππον. καὶ ἐπειδὴ κατελθόντες ἐμείναμεν εἰς πόλιν ἡμῶν πρώτην, εὐθὺς μὲν ξύλα δαφιλῇ σχῶν, ἦν γὰρ βέλτιστος ὁ ξένος μου, ὃς παρέσχεν ἄκαπνα, ἔστησα αὐτὸν ἐν στάβλῳ μικρῷ μόνον καὶ ἐν κύκλῳ παρέκαυσα νεκρῷ σχεδὸν ὄντι. περὶ ἀλεκτρυόνος οὖν ὦραν ἤρξατο κινεῖσθαι. ἔχων δὲ ἐν τῷ βουττίῳ ἔντρυγον κονδῖτον, ἐπειδὴ τρώγειν οὐκ ἠδύνατο οὐδὲ κινῆσαι τὰς σιαγόνas, ἄρτους καθαροὺς ἔβρεχον εἰς τὸ κονδῖτον καὶ ἀνακείμενον ἐνεχυμάτισα τρίτον. ἦν δὲ καὶ ἄκοπον σκευάσας ἐμαντῷ διὰ τούτους τοὺς χειμῶνας ἀπὸ τῶν ἀπλῶν φαρμάκων τῆς δυνάμεως, ὅπερ ἄκοπον ἀναλύσας ἐλαίῳ Κυπρίνῳ ἐπελθὼν μοι ἔχρισα τὸν ἵππον. ἰδροῦν τε ἤρξατο καὶ κινεῖσθαι καὶ ἐσθίειν εὐθὺς. οὐτινος ἀκόπου τὴν μίξιν καὶ τὴν συσταθμίαν ἐκθήσομαι. ἐν δὲ τούτῳ θεραπεύσεις μὲν πάντα τέτανον ἵππων καὶ τῶν ἄλλων ὑποζυγίων, πάντα δὲ κρυμὸν ἀπελάσεις καὶ τοὺς κατεψυγμένους ἰάσῃ, καὶ ἡμιζήρους γεγονότας ἀποκαταστήσεις εἰς τὸ κατὰ φύσιν. καὶ ὅλως τούτου θερμότερον οὐδὲν οὐδενὶ οὐδὲ ἰατρῷ οὐδὲ ἰπποῖατρῷ ἀνεγράφη φάρμακον οὐδὲ ἀναγραφῆσεται.

‘*Tetanos*’ occurs in horses and other beasts of burden from no other cause than cold when the solid [tissues] are afflicted and it undergoes a sympathetic affection of the sinews. It is called ‘*tetanos*’ because the whole body is tensed, especially the head and ears and neck. The horse can live as long as its heart does not freeze, but when the heart does freeze, the horse dies.

I learned this once when I happened to be at Carnuntum in Pannonia, accompanying an emperor, spending time with him as a friend. All of a sudden he had to make haste because of his marriage, so at the beginning of the month of February, from Carnuntum he travelled to Italy at full speed, making two or three segments of the journey at one stretch.

When we had traversed all of Noricum and had begun the ascent into the so-called Julian Alps, there was a sudden and heavy snowstorm around the first hour of the day. And the soldiers were freezing to death on their horses, and they simply remained on the horses, all stiff. The sign that the men were dead was that their lips were drawn back and their teeth were showing. And when the horse happened still to be alive, it would just follow along, bearing the soldier’s corpse, the corpse still clutching its weapon and the reins, remaining rigid and still somehow united to the horse, so that it was quite a task for the living to take the corpse down. If the horse died too, it would freeze stiff and remain standing. And this befell many men and horses and mules.

Only those couriers who were sent ahead to the cities before the emperor did not die, nor did their horses. And the reason for this is clear: their constant motion warmed the cold, and revived them.

Then a horse of my own, one of the best, who was being ridden by a young servant, was seized by the *'tetanos'*. This upset me very much, for nothing is better than a fine swift horse. This horse was Gaulish, eight years old, and unbeatable in galloping after stags. I really wanted to save that horse.

So when we arrived at our first city, I obtained plenty of wood (my host was most excellent and provided me with smokeless wood), and I stood the horse in a small stable alone and burned the smokeless wood in a circle around him—he was very nearly dead. But around the time of the cock-crow, he began to stir. I had in my canteen the dregs of some spiced wine: because the horse could not eat or even move his jaws, I dipped clean bread into it, and force-fed it to him three times as he lay there. And there was also a remedy that I had prepared those winters from the properties of simples which I diluted in henna-oil which I had at hand and used to anoint the horse. Immediately he began to perspire and to move and to eat.

I will set forth the blend and proportions of this remedy, for with it you may treat any *'tetanos'* of a horse or other beast of burden, and chase away any chill, and heal those that are frozen—even if they are half-dead you may restore them to their natural state. No medicine more warming than this has ever been written down by a doctor or a horse-doctor, nor will one ever be written.

Theomnestus refers here to the conventions of official travel: the stopping-places, the couriers sent ahead, the 'hospitality' or *ξενία* provided (or requisitioned) along the way.³⁴ We may note that unlike Apsyrtus, who uses the Macedonian month-names, Theomnestus uses the Roman calendar, 'at the beginning of the month of February' (*κατ' ἀρχὰς τοῦ Φεβρουαρίου μηνός*), in the section on tetanus; 'around the Ides of the month of April' (*περὶ τὰς Ἀπριλίου μηνὸς εἰδούς*), in the chapter on feeding at grass.³⁵ This difference may reflect geographical distance rather than distance in time. According to the Arabic translation, Theomnestus was from Nicopolis; there were, of course, numerous cities with this name—Stephanus lists three, in Epirus, Bithynia, and Lesser Armenia—but the fact that Theomnestus spent time at Carnuntum might suggest Nicopolis ad Istrum. At least one funerary inscription testifies to the activity of a horse-doctor in that city, probably in the late third century.³⁶ One may note also Theomnestus' use of the Latin loanwords *στάβλον*, *βούττιον*, and *κονδίτον*, and his echo of a Galenic title.³⁷

³⁴ See the comments of S. Mitchell, 'Requisitioned Transport in the Roman Empire: A New Inscription from Pisidia', *JRS* 66 (1976), 127.

³⁵ M319, *CHG* I p. 183; M100 = B97.8, *CHG* I p. 338.

³⁶ s.v. *Νικόπολις*. G. Mihailov, *Inscriptiones graecae in Bulgaria repertae*, II (Sofia, 1958) II, no. 687, pp. 116–17.

³⁷ *Περὶ κράσεων και δυνάμεων τῶν ἀπλῶν φαρμάκων*, ed. Kühn XI. 379–892, XII. 1–377.

The other passage of an anecdotal nature describes the pernicious effects of an over-zealous administration of salt. Here we see Theomnestus gently poking fun at a blundering soldier's distress:

στρατιώτης, δοκῶν εἶναι φιλόκαλος, ἴδιον ἵππον ἅπαξ εἰς τὴν ἐξήμερον ἁλῶν ὑπέρκορον ἐποίει τοῦτον τὸν τρόπον· κέρας ἔχων κοῖλον, ἁλῶν ἐπλήρου τοῦτο, καὶ ἀνατείνων τὸν ἵππον καὶ διανοίγων αὐτοῦ τὸ στόμα, ἐνέχει τοὺς ἅλας εἰς τὴν φάρυγα ἀθρόον, καὶ πάλιν ἀνακρέμνα, ἵνα ἐμπίπτωσιν ἅλεις. τοῦτο γὰρ ἐρωτηθεὶς ἀπεκρίνατό μοι. ὅπερ δρῶν φθισικὸν ἀπεργάσατο τὸν ἵππον, σφόδρα εὐγενῆ τε καὶ δόκιμον ὄντα. τὸ γὰρ ἅλας ὃν λεπτυντικόν, ἀθρόως ἐμβληθὲν διὰ τοῦ κέρατος, ἐπὶ σχήματος γενομένου τοῦ ἵππου κατὰ τὴν κρέμασιν, κατερρῦη τῷ πνεύμονι, καὶ καταστάζοντες ἰχώρες δριμύτατοι διέφαγον εἰς βάθος τὸν ὑμένα τοῦ πνεύμονος, καὶ ἔλκος ἐργασάμενοι φθίσει περιέβαλον τὸ ζῶον, καὶ ἐφ' ἐκάστης ἡμέρας ἰσχνούτο.

σημειωσάμενος ὃν καὶ γνούς, ὃ τι πέπονθεν, καὶ ὡς οὐκ ἀλλαχόθεν ἢ ἐκ τοῦ ἁλός, κλαίοντι καὶ ὀλοφυρομένῳ ἔδωκα ἵππον, εὐγενῆ μὲν οὐδαμῶς, ὑγιῆ δέ. καὶ ἔλαβον τὸν ἵππον, καὶ θεραπεύσας ἔσχον πάλιν ἀγωνιστήν, ὡς ἀρέσαι τε βασιλεῖ καὶ ὑπ' αὐτοῦ κατασχεθῆναι.³⁸

A soldier, who thought he was being meticulous, made his horse over-glutted by giving him salt once a week in this manner: taking a hollow horn, he filled it with salt, and stretching out the horse[’s neck] and opening up its mouth, he poured the salt into its throat all at once, and then he tied it again with its head up, so that the salt would fall in. That is what he replied to me upon being questioned. And by doing that, he made the horse (which was very well bred and experienced) consumptive. For the salt, being thinning, when poured all at once through the horn, because of the position in which the horse was tied up, flowed down into the lung, and acrid humours, dripping down, ate deep down into the membrane of the lung, and creating a sore they inflicted consumption upon the beast, and day by day it grew thinner.

Observing and recognizing what it was suffering, and that it was from nothing other than the salt, I gave to the weeping and wailing one a horse that, although not at all well bred, was healthy. And I took his horse, and treating it, I had once again a champion, fit to please an emperor and to be possessed by him.

Once again, Theomnestus refers to an emperor, but again with no mention of a name. This vagueness might be interpreted as a desire to avoid association with a defeated and disgraced political figure; on the other hand, the name might have been lost in the process of copying. (The Arabic text does not appear to preserve an emperor’s name either.)

There is a certain element of self-congratulation in these stories, but in each case Theomnestus emphasizes his pride in the horse as much as his pride in the cure. Elsewhere he writes that ‘one who acts correctly to preserve the health of horses and mules does not take care of them in just any old

³⁸ M537 = B7.7, CHG I p. 47.

way' (ὁ καλῶς ἵπποις καὶ ἡμίονοις τὴν τῆς ὑγείας προφυλακὴν ποιούμενος οὕχως ἔτυχεν περιποιεῖται.)³⁹

Theomnestus, like Apsyrтус, refers to the clichés of λόγος and πείρα.⁴⁰ But his references to experience, unlike those of Pelagonius, have a ring of authenticity; there seems no reason to doubt that he was a competent practitioner:

ἐκθησόμεθα οὖν ἀμφοτέρων καὶ γνωρίσματα καὶ θεραπείας, ἐπεὶ τρόπον ἓνα τοῦ χειροποιήτου σοι πνευμονικοῦ μὲνυσαντες καὶ αὐτοὶ καὶ θεασάμενοι καὶ θεραπεύσαντες ἐφύλαξάμεθα.⁴¹

We shall set forth the symptoms and treatments of both [types of cough], since we have informed you about artificially induced lung-disorders that we ourselves observed and treated and cured.

Theomnestus' experience with horses seems to have been varied. He evidently travelled with the army, even if he was not a soldier himself. He refers twice to hunting: the Gaulish horse saved from 'tetanus' was unbeatable in pursuit of stags, and rupture of the lung often occurs in the course of the chase (πολλάκις δὲ ταῦτα συμβαίνει κατὰ τοὺς ἐν τῇ θήρᾳ διωγμούς).⁴² He also mentions that one type of cough often afflicts horses who compete (τοῖς ἀγωνισταῖς ἵπποις), and continues with an apparent reference to a specific horse: 'being very concerned about a racehorse, I was sympathetically affected along with it' (καὶ σφόδρα φροντίσας ἐπὶ δρομέως ἵππου συνδιατιθεμένος αὐτῷ).⁴³ A reference to a threshing-floor, in the discussion of colic from gorging, implies a rural setting, but may be an addition from another source:

ἢ ἀγνωσίᾳ ἄνευ τῆς τοῦ ἵπποφόρβου γνώμης τὸ ζῶον, οἷα γίγνεται ἀπὸ τῶν θημωνίων ἢ τῆς ἄλλω αὐτῆς, φάγῃ πλέον . . .⁴⁴

or if, in ignorance, without the knowledge of the herdsman, the animal overfeeds, as it happens from the haystacks or from the threshing-floor itself . . .

For whom was the treatise written? In the text preserved in M, Theomnestus twice apostrophizes an anonymous person: 'informing you', 'I write down for you' (σοι . . . μὲνυσαντες; γράφω σοι).⁴⁵ In each of these cases Theomnestus is describing a cure that he has tried himself; the vocative creates the sense that he is sharing something of value with the addressee. (The pronoun is absent from the text of B in both instances.) In a third instance, preserved in

³⁹ M100 = B97.8, CHG I p. 338.

⁴⁰ M33, CHG I p. 25.

⁴¹ M537 = B7.7, CHG I p. 47.

⁴² M537 = B7.6, CHG I p. 46.

⁴³ M473 = B22.9–10, CHG I p. 106.

⁴⁴ M149 = B98.2, CHG I p. 340.

⁴⁵ M537, printed as an addition to B7.7, CHG I p. 47; M89, omitted from B68.5, CHG I p. 265 app.; presumably this is the Quintus or Ignatius to whom the treatise is dedicated in the Arabic version.

CL, Theomnestus adopts a didactic tone: ‘it is appropriate to teach you’ (σὲ διδάσκειν εὐκαιρον).⁴⁶ Was the treatise written for the professional or the layman? Theomnestus makes the distinction between a *technites*, one versed in the art of healing, and the opposite:

Ἡ ψωρίασις... ἔστι μὲν εὐίατος τῷ τεχνίτῃ καὶ ἀκίνδυνος... τῷ δὲ ἀτέχνῳς θεραπεύοντι πολλάκις θάνατον ἐμποιεῖ τὰ προσφερόμενα.⁴⁷

Mange ... is easy for the specialist to cure and is not dangerous ... but the [treatments] applied by one who is without skill often lead to death.

ἐπεὶ ἄδηλόν ἐστι τῷ μὴ τεχνίτῃ... τῷ ἀγνοοῦντι.⁴⁸

because it is unclear to the non-professional ... to one who is ignorant.

He also displays a concern for reputation:

οὐδὲν κωλύει μέλλειν τοῖς ἰατροῖς καὶ τοῦ κοσμίους εἶναι τὰς τῶν ἐλκῶν οὐλάς. οὐλλή γὰρ τῷ μὴ πεπονθότι τόπῳ οὐ μέτριαν φέρει τὴν ἀκοσμίαν κοίλη γινομένη. ἀφόρητον μὲν ἔχει τὴν ἀκοσμίαν, καταγελωτὰ δὲ τοῖς ἰατρεύουσι φέρει.⁴⁹

Nothing prevents doctors from also being orderly about the scars of wounds. For a scar, if it becomes hollow, brings not a little ugliness to the place which is not suffering. Not only is the ugliness intolerable, but it also incurs derision for the healers.

The passages on choosing a horse and on grooming seem to be directed toward a beginner; yet the medical material is technical in nature, and presupposes a certain degree of familiarity with the drugs and procedures prescribed.

CONTENTS AND STRUCTURE

A number of cross-references provide clues about the organization and the contents of the treatise: the section on choosing and caring for the horse begins ὀλίγα πρῶτον εἴπωμεν περὶ ἵππου, οἷον εἶναι τὸν τοιοῦτον χρὴ τὸν ἐπιμελείας ἀξιοῦσθαι μέλλοντα, which seems to imply that it was situated toward the beginning of the text. Theomnestus conducts the discussion in an organized fashion:⁵⁰

I. We will first say a few things about the horse, what one who is to be deemed worthy of attention ought to be like.

⁴⁶ C93. 18, CHG II p. 234.

⁴⁷ M298 = B69.16, CHG I p. 273.

⁴⁸ M585 = B66.3, CHG I p. 259.

⁴⁹ M262, CHG II p. 51. Cf. Aps. M1, printed as an addition to B1.2, CHG I p. 1.

⁵⁰ C93.12–17, CHG II pp. 231–4.

A. It ought to be strong and beautiful

1. We select a strong one ...

a. predictable from place of origin and breed

b. discernible from foot and gait

2. beauty... These are the things by which strength and beauty may be recognized

B. These are the signs of quickness of spirit ... These, then, are the kind and trustworthy signs

II. How and when such a horse ought to be looked after, ...

... Let this much suffice as to the evaluation and care of the foal

I. *Ολίγα πρώτων εἰπόμεν περὶ ἵππου, οἷον εἶναι τὸν τοιοῦτον χρὴ τὸν ἐπιμελείας ἀξιούσθαι μέλλοντα.*

A. *δεῖ οὖν ἰσχυρόν καὶ καλλόν ...*

1. *ἐπιλεξόμεθα δὲ τὸν ἰσχυρόν ...*

a. *ἀπὸ μὲν τοῦ τόπου ... καὶ κατὰ γένος*

b. *τὸ δὲ ὅλον, ἐκ τοῦ περιπάτου καὶ τῆς θέσεως τῆς ὀπλῆς*

2. *κάλλος δέ ...*

αἱ μὲν οὖν ἰσχύος καὶ κάλλους αὗται τυγχάνουσι ἐπιγνώσεις.

B. *ψυχῆς δὲ γοργότητος γνωρίσματα ταῦτα ...*

φιλόανθρωπα γὰρ καὶ πιστὰ ταῦτα τὰ γνωρίσματα

II. *τούτου τοίνυν πῶς ἐπιμελητέον καὶ πότε ...*

τοσαῦτα ἀρκεῖτω περὶ ἐπιγνώσεως καὶ ἐπιμελείας πώλου.

This section is related in content and structure to Anatolius and other authors in the Mago–Cassius Dionysius tradition, and, as we shall see, appears to be derived from the same source. But Theomnestus' version is more extensive: the horse is the focus of his treatise, rather than simply one of many domestic animals described in the agricultural manuals. And whereas in Anatolius and Columella, descriptions of the points and temperament of the horse appear in the context of breeding, in Theomnestus they introduce a detailed discussion of the early handling and training of the young horse.⁵¹ Theomnestus begins this second section with the season in which training ought to commence and the age at which the halter ought to be introduced and grooming begun. Next, he treats hoof care, including practical tips for how to avoid being kicked, and for tying the horse safely. Finally, the gradual increase of feed during early training is described, along with the age at which backing (the introduction of a rider) should take place.

⁵¹ C93.18–22, *CHG* II pp. 235–7.

The medical material in the treatise appears to have begun with a discussion of glands: in the excerpt on that subject Theomnestus explains his use of ancient sources as though introducing such quotations for the first time.⁵² In every recension of the *Hippiatrica*, glands is preceded by fever, but an isolated prescription of Agathotychus for fever represents the only contribution of Theomnestus to the first chapter. Six sequences of related subjects may be discerned among the excerpts in M; these appear to have been incorporated into the *Hippiatrica* with no alteration to their original order. They include the same common ailments that appear in all of the treatises in the compilation: treatment of wounds, of the eye, cough, and colic; other series include those on glands and infections of the mouth.⁵³ In M, a chapter on leeches intrudes between cough and pneumonia; however, a transitional phrase, ‘following cough, I wrote about pneumonia too’ (ἀκολούθως μετὰ τὴν βήχα καὶ περὶ πνευμονίας ἔγραψα),⁵⁴ implies that the respiratory ailments were grouped together in Theomnestus’ treatise. Theomnestus writes that a horse suffering from colic ‘produces these symptoms, the others being the same as those of one with dysury’ (ποιεῖ δὲ σημεῖα οὕτως, τὰ μὲν ἄλλα ὅμοια τῷ δυσουριῶντι).⁵⁵ This might seem to refer to a subject already described; however, comparison with the texts of Apsyrtus and Hierocles suggests that dysury was discussed after colic: Apsyrtus, on whom both Theomnestus and Hierocles depend, treats the two disorders in a single letter on account of the similarity of their symptoms.⁵⁶ A list of remedies appears to have stood at the end of the book: Theomnestus writes χρήσθαι ἀνακολλήματι, ὅπερ ἐπὶ τέλους τῇ συγγραφῇ ἐκτεθήσεται.⁵⁷ In such an arrangement, his treatise would have resembled those of Apsyrtus and Hierocles. He also refers to drugs by category:

χρὴ οὖν αὐτὸ μὴ ἄλλως θεραπεύειν ἢ συνεργοῦντα τῇ φύσει τοῖς διαφοροῦσι, τοῖς χαλῶσι, τοῖς ἀμύσσουσι πρῶτον, καὶ οὐ τοῖς ἀπουλοῦσιν.⁵⁸

One ought to treat it [mange] in no other way than by working with nature using dispersing, relaxing, and irritating [drugs] first, and not with cicatrizing ones,

ὅταν οὖν ἀπὸ ψύχους, τοῖς χαλῶσι καὶ θερμαίνουσι δεῖ χρήσθαι. ὅταν δὲ ἀπὸ κόνεως τοῖς ἐκφράττουσιν καὶ καταλεαίνουσιν.⁵⁹

When it [the cough] is from chill, one ought to use relaxing and warming [drugs]. When from dust, unblocking and softening ones.

⁵² M33, CHG I pp. 25–6.

⁵³ Glands M31–8, wounds M252–63, eyes M368–71, cough M473–7, colic M582–6, mouth infections M1107–11.

⁵⁴ M537 = B7.6, CHG I p. 46.

⁵⁵ M582 = B31.4, CHG I pp. 157–8.

⁵⁶ M59 = B33.1, CHG I p. 163.

⁵⁷ M183, CHG I p. 127.

⁵⁸ M298 = B69.16, CHG I p. 273.

⁵⁹ M473 = B22.10, CHG I p. 106.

Recipes for drugs listed in the appendix may have been classified according to the action of the drugs. The long series of prescriptions for healing wounds may also have been part of this appendix. Although in the *Hippiatrica* there is no appendix of recipes attributed to Theomnestus, there is, as we have mentioned, a long list at the end of the Arabic text.

The Greek text in M preserves the traits of Theomnestus' style to an extent that, for example, the hippological passages in CL are recognizably related to the medical part of the text. Moreover, a number of cross-references confirm that the excerpts belong to the same treatise. For example, Theomnestus' recommendation that salt ought not be administered through a horn *μετὰ δὲ κέρατος ἄλας κωλύομεν δίδοσθαι*,⁶⁰ echoes the salt treatment cited above; while his explanation that cough afflicts young horses when they are first fitted with the bit, and, playing with it, open their mouths wide more than usual and catch cold (*αἱ βήχες μάλιστα τοῖς πώλοις γίνονται ὅταν πρῶτον λάβωσι τὸν χαλινόν. χάσκοντες γὰρ ἔξ ἀνάγκης παρὰ συνήθειαν τὰ στήθη καταψύχονται*),⁶¹ echoes the mention of the same problem in the passage on training a young horse in C: 'cold ... activates cough from chill. For when the mouth is opened up by the bit, and it inhales the airs of the winds down into the throat, the deep parts are chilled and dried up, which disease has cough as its consequence' (*κρυμός... τὴν ἐκ καταψύξεως βήχα κινεῖ. δηρημένον γὰρ ἀπὸ τοῦ χαλινοῦ τοῦ στόματος καταπνεόμενος ταῖς τῶν ἀνέμων αὔραις τὴν φάρνγγα, ψύχεται τὰ βάθη καὶ ξηραίνεται, ὃ δὲ πάθος ἐπισύμπωμα δέχεται τὴν βήχα*).⁶²

SOURCES

The two sections of Theomnestus' text are based on different sources: information on the choice and care of the horse is drawn from Xenophon, probably through the intermediary of Cassius Dionysius, while veterinary material is primarily from Apsyrus with additions from other authors, including, apparently, Cassius Dionysius. The longest continuous passage of Theomnestus' writing is the discussion of the choice and early training of the horse preserved in C.⁶³ Theomnestus' essay on the points of the horse is perhaps the most thorough description of its kind to exist in Greek. The genre

⁶⁰ M734 = B41.4, *CHG* I p. 210.

⁶¹ M473ff = B22.13, *CHG* I pp. 106–7.

⁶² C93.18, *CHG* II, p. 235.

⁶³ *περὶ ἐπιλογῆς ἵππου* C93.12–17, *CHG* II pp. 231–4, *περὶ πωλοδαμνίας* C93.18–22, *CHG* II pp. 234–7.

is an ancient one: the earliest known systematic description is that composed by Simon of Athens in the fifth century BC. (This passage, the principal preserved fragment of Simon's text, is placed, in C, immediately before the passage of Theomnestus under consideration.)⁶⁴ Xenophon repeats Simon—consciously—to a certain extent, at the beginning of his treatise, in the section on how not to be cheated when buying a horse.⁶⁵ As E. Oder has shown, similar lists of desirable traits of conformation and temperament exist in Varro, Columella, Anatolius (from both the *Geoponica* and the C recension of the *Hippiatrica*), Palladius, Vergil, Calpurnius, Nemesian, and Oppian.⁶⁶ When the relevant passages are placed side-by-side, it is clear that all adhere to the ideal described by Simon. Xenophon's text is closest to that of Simon; while the striking verbal correspondence between the other eight makes it obvious that all the Roman writers, at least for this special subject, draw from the same source. This source, as Heinze demonstrated, is Cassius Dionysius–Diophanes.⁶⁷ Oder omits Theomnestus (along with the compiler Pollux and Pelagonius, who repeats Columella) from his discussion of the subject apropos of the 'Excerpta Anatoliana' which preface the C recension.⁶⁸ Theomnestus is not a slavish compiler, yet his text fits unquestionably into the tradition. Interestingly, when compared against Oder's array of authorities, Theomnestus shows a closer affinity to the texts of Simon and of Xenophon, which were already very ancient by his day, than to any author closer in date. He quotes a certain Cassius elsewhere in the text; it may well be that Theomnestus used Cassius Dionysius rather than the abridgement by Diophanes which was Anatolius' and Varro's source. Xenophon's name, as we have mentioned, features in the list of Greek writers on agriculture—probably representing Cassius Dionysius' sources—given by Varro and Columella.

At the beginning of his treatise *On the Art of Horsemanship*, Xenophon discusses the points of the horse, what an amateur ought to know about breaking, on recognizing virtues and vices, stable management, and grooming. Theomnestus (via his source) refers to this part of the treatise, chapters 1–5, rather than the other seven chapters, which are about riding. The first similarity is that Theomnestus commences his discussion with the foot. Simon and Xenophon both do: 'a good hoof is a good thing for a horse' (ὁπλὴ μὲν οὖν ἀγαθὴ ἵππῳ ἀγαθόν), begins Simon; while Xenophon writes, 'we say that one ought to examine the feet before the body. For just as there is no good in a house if it has an attractive superstructure but the underlying

⁶⁴ C93.1–11, *CHG* II p. 228–31.

⁶⁵ *De re equ.* I.1.

⁶⁶ Oder, *Anecdota Cantabrigiensia*, pp. 12 ff.

⁶⁷ 'Animadversiones in Varronis rerum rusticarum libros', 431–40.

⁶⁸ *Anecdota Cantabrigiensia*, 13.

foundations are not what they should be, so too there is no good in a warhorse, even if it has all other good qualities, if it is not sound of foot' (τοῦ γε μὴν σώματος πρώτων φάμεν χρῆναι τοὺς πόδας σκοπεῖν. ὥσπερ γὰρ οἰκίας οὐδὲν ὄφελος ἂν εἶη, εἰ τὰ ἄνω πάνυ καλὰ ἔχοι μὴ ὑποκειμένων οἴων δεῖ θεμελίων, οὕτω καὶ ἵππου πολεμιστηρίου οὐδὲν ἂν ὄφελος εἶη, οὐδ' εἰ τὰλλα πάντα ἀγαθὰ ἔχοι, κακόπους δ' εἶη)—as the saying goes 'no foot, no horse'.⁶⁹ All the later writers, however, begin with the head.

Theomnestus

Ὅταν παχεῖα τυγχάνῃ ὀρθιός τε καὶ στενωτέρα καὶ κοίλῃ κάτωθεν . . . ὁ γὰρ κοῖλος τὴν ὀπλὴν ἵππος ἐν τῷ κατεπιπέδῳ κυμβαλώδῃ τινὰ τὸν ἦχον ταῖς αἰσθήσεσι τῶν ἀκουόντων παρέχει, ὅστις ἦχος ἰσχυρότερον τὸν ἵππον κηρύττει.

When [the hoof] is thick, upright, rather narrow, and concave underneath, . . . For a horse that is concave of foot makes a sound against the ground that is rather like a cymbal to the senses of those listening—and it is this sound that proclaims the horse to be a strong one.

Xenophon

Οἱ γὰρ παχεῖς πολὺ τῶν λεπτῶν διαφέρουσιν εἰς εὐποδίαν . . . καὶ τῷ ψόφῳ δὲ ἔφη Σίμων δῆλους εἶναι τοὺς εὐποδας, καλῶς λέγων ὥσπερ γὰρ κύμβαλον ψοφεῖ πρὸς τῷ δαπέδῳ ἢ κοίλῃ ὀπλῇ.

The thick ones surpass the thin ones in goodness of foot . . . And Simon has said that that those with good feet are evident by the sound [they make], and he is right, for the hollow hoof sounds like a cymbal against the ground.

Simon

Ὀλίγον δὲ τὸν ὄνυχον παχὺν ἔχει. ἔστι δὲ αὐτῇ τεκμήριον καὶ ὁ ψόφος τῆς ὀπλῆς τῆς ἀγαθῆς· κυμβαλίζει γὰρ ἢ κοίλῃ μᾶλλον ἢ ἢ πλήρῃ καὶ σαρκώδῃ.

It has a slightly thick hoof. A sign of this is the sound of the good hoof: for a hollow one clashes like a cymbal more than a full and fleshy one.

None of the other Greek or Latin writers use the vivid image of the cymbal to describe the sound of hoof striking the ground. Whereas Simon and Xenophon then proceed from foot upward to the rest of the body, Theomnestus skips from foot to head, and moves from the head down. In so doing he follows the convention not only of medical texts, but that followed by the agricultural writers: an indication of the immediate source for the Xenophon material.

In spite of this difference in their organization, the resemblance between the texts continues.⁷⁰ A glance at the array of descriptions of the points of the horse from agricultural writers assembled by Oder reveals that Theomnestus' words are much closer to those of Xenophon and Simon. The likening of the horse's neck to that of a cock, for example, is not present in Anatolius, Columella, or related texts.

⁶⁹ Theomn. C93.14, *CHG* II p. 232; Xen. *De re equ.* 1.2; Simon 5 in Widdra's edn. of Xen.; cf. C93.5, *CHG* II p. 229.

⁷⁰ Theomn. C93.14–16, *CHG* II pp. 232–5; Xen. *De re equ.* 1.2 ff.; Simon ed. Widdra 5–9; cf. C93.5–9, *CHG* II pp. 229–31.

Theomnestus

Αὐχένα ἔχτω ἀκόλουθον τῇ κεφαλῇ,
ἀρχόμενον μὲν ἀπὸ στενοῦ, βαίνοντα δὲ
ἀφελῶς καὶ ἀναλόγως τοῖς μεγέθεσιν οἶον
ἀλεκτρυόνος.

Let it have a neck corresponding to the head, beginning narrow, and continuing smoothly in accordance with its proportions, like that of a cock.

Xenophon

Ἀπὸ γε μὴ τοῦ στέρνου ὁ μὲν αὐχὴν αὐτοῦ
μὴν ὥσπερ κάπρου προπετὴς πεφύκοι, ἀλλ'
ὥσπερ ἀλεκτρυόνος ὀρθὸς πρὸς τὴν
κορυφὴν ἦκοι, λαγαρὸς δὲ εἴη κατὰ τὴν
συγκαμπήν.

The neck should not be thrown out from the chest like that of a boar, but, like that of a cock, should rise straight up to the poll and be slim at the bend.

That Theomnestus does not mention either of the great equestrian authorities by name in the Greek text as we have it suggests that he was using their texts indirectly; we have seen Apsyrtus and Hierocles drop the names of Simon and Xenophon even without using their texts. Moreover, their texts seem to some extent combined: Theomnestus paraphrases Xenophon, while from Simon he draws words or phrases, often adapting them to a slightly different context.⁷¹ For example, Theomnestus' statement that beauty lies in the proportions of the body, κάλλος δέ, ὡς ἐν συντόμῳ εἰπεῖν, ἐν τῷ μεγάλῳ καὶ μικρῷ σώματι ἵππου, echoes the substance of Simon's statement on proportion, but Theomnestus omits the key word *συμμετρία* used by Simon: τὸ δὲ μέγεθος τρία τῶν ὀνομάτων ἐπιδέχεται μέγα, μικρόν, εὐμέγεθες, ἢ εἰ βούλει σύμμετρον . . . κράτιστον δὲ ἐν παντὶ ζῳῷ ἢ συμμετρία, 'There are three terms that apply to the size of the horse: large, small, and of good size, or, if you like, well proportioned (*σύμμετρον*). Good proportion (*συμμετρία*) is best in every animal.'⁷² Similarly, the phrase *νευρώδη καὶ ἄσαρκα* which appears in Simon's description of the foreleg above and below the knee is applied by Theomnestus specifically to the hock.⁷³

⁷¹ Theomnestus does not, however, depend upon the amalgam of Simon and Xenophon in Pollux, I.188 ff.

⁷² Theomn. C93.15, *CHG* II p. 233; Simon 2, in Xen. *De re equ.* ed. Widdra 2 = C93.2, *CHG* II p. 228. The word *συμμετρία* figures in a fragment of the treatise (entitled 'Canon') on the proportions of the human form by the 5th-c. sculptor Polycleitus, quoted by Galen, *De placitis Hippocratis et Platonis* 5. A bronze statue by Polycleitus, also known as the Canon, is said to have embodied perfect mathematical proportion; see e.g. A. Stewart, 'The Canon of Polykleitos: A Question of Evidence', *JHS* 98 (1975), 122–31. It has been suggested that the bronze statue of a horse commissioned by Simon, and set up near the City Eleusinion in Athens, was similarly an embodiment of perfect proportions: E. Curtius, *Die Stadtgeschichte von Athen* (Berlin, 1891), 188. Euphranor, another 5th-c. sculptor and painter, also wrote on *συμμετρία*: see J. J. Pollitt, *The Ancient View of Greek Art* (New Haven and London, 1974), 24–32 and 160–2. *Σύμμετρον* and *σύμμετρώς* are, however, used by Theomnestus simply to mean 'moderate' or 'moderately' in his descriptions of the mouth and the tail.

⁷³ C93.15–16, *CHG* II pp. 233–4.

After describing conformation, Theomnestus turns to temperament. Xenophon had already drawn the distinction between physical qualities and qualities of spirit, but had declined to identify the latter in the foal: 'obviously it is the body of the unbroken foal that ought to be evaluated, for one that has never been ridden does not provide clear indications of spirit' (τοῦ μὲν τοίνυν ἀδαμάστου πώλου δῆλον ὅτι τὸ σῶμα δεῖ δοκιμάζειν τῆς γὰρ ψυχῆς οὐ πάνυ σαφὴ τεκμήρια παρέχεται ὁ μῆπω ἀναβαινόμενος).⁷⁴ Theomnestus' relation to the agricultural writers is evident in this passage: as Oder has shown, and as we have seen above, similar descriptions exist in Columella and Anatolius.⁷⁵

Theomnestus

Ψυχῆς δὲ γοργότητος γνωρίσματα ταῦτα·
ὁ μὲν πῶλος ἐν τῇ ἀγέλῃ μὴ αἰεὶ συνέστω τῇ
μητρί, σκιρτῶν δὲ δορκαζέτω, ἐρκία
προθύμως ὑπεραλλέσθω, τάφρους
τεθαρρηκότως πηδάτω, ποταμῶν κινδύνων
καταφρονείτω. ταῦτα γὰρ ἔμφυτα τῶν
πῶλων.

And these are the signs of vigour of spirit: let the foal not always stay close to its dam in the herd, but gambol and frolic, and eagerly leap over fences, and bravely bound over ditches, and disdain the dangers of rivers. For these are the inborn [qualities] of foals.

Anatolius

Τὸν δὲ πῶλον τὸν ἐσόμενον ἀγαθὸν
διαγνωσόμεθα οὕτως . . . ἀπὸ δὲ τῶν
ψυχικῶν οὕτω δοκιμάζεται, ἐὰν μὴ ᾗ
ἐπτοημένος μηδὲ ὑπὸ τῶν αἰφνιδίως
φαινομένων ἐκταραττόμενος, ἐν τε τῷ
συναγελασμῷ τῶν πῶλων φιλόπρωτος, οὐκ
εἰκων, ἀλλ' ἐξωθῶν τὸν πλησίον, ἐν δὲ τοῖς
ποταμοῖς καὶ λίμναις οὐκ ἀναμένων ἕτερον
προεμβαίνειν, αὐτὸς δὲ ἀκαταπλήκτως
τοῦτο πρῶτος ποιῶν.

We recognize the foal who will be good thus . . . It is thus evaluated from qualities of spirit: if it is not frightened, nor perturbed by things happening suddenly; while in the herd of foals it is competitive, not giving way, but pushing aside the one next to it, and not waiting at rivers and lakes for another to go ahead but undaunted going in first.

The second part of this section is on the early handling of the young horse, a subject to which the agricultural writers allude only in passing. Theomnestus' instructions for grooming a horse are the only ones to survive in the *Hippiatrica*.⁷⁶ Theomnestus echoes Xenophon's observation that grooming is pleasant for the horse, because the groom attends to areas the horse cannot reach himself; however, he does not follow Xenophon word for word.⁷⁷

⁷⁴ *De re equ.* I.1.

⁷⁵ Theomn. C93.17, *CHG* II p. 234; *Geop.* XVI. I.10, cf. *Excerpta Anatoliana* I, *CHG* II p. 115. Oder, *Anecdota Cantabrigiensia*, 4–5. See above, p. 95.

⁷⁶ C93.19, *CHG* II pp. 235. There are anecdotal descriptions of grooming elsewhere, e.g. Ael. NA III.2.

⁷⁷ *De re equ.* II.3.

Theomnestus next gives some practical advice: start grooming from the upper part of the body, and progress downward, in order to avoid soiling the areas already cleaned. The same advice is given by Xenophon:⁷⁸

Theomnestus

ἀρχέσθω δὲ ὁ ψήχων τὸν πῶλον . . .
ἀπὸ τῆς κεφαλῆς χρῆ . . . καὶ τὴν τριῦψιν
ἄνωθεν καταφέρεισθαι καὶ τὴν κάθαρσιν
ὡσαύτως τῶν ἀποβαλλομένων τριχῶν.
οὕτω γὰρ τὰ μὲν φιλοκαληθέντα καθαρὰ
μένει, τὰ δὲ οὐδέπω, καθαρθήσεται μὴ
μολυνομένων τῶν προκαθαρμένων.

Let the one who grooms the colt begin from the head. And the rubbing down should be continued from the top down, and the hairs which are shed should be cleaned in this way. For in this way the parts that have been groomed stay clean, while those which have not yet [been groomed] can be cleaned without soiling what has already been cleaned.

Xenophon

ἐπειδὴν δὲ ψήχῃ, ἄρχεσθαι μὲν ἀπὸ τῆς
κεφαλῆς καὶ τῆς χαίτης· μὴ γὰρ
καθαρῶν τῶν ἄνω ὄντων μάταιον τὰ
κάτω καθαίρειν.

When you groom it, begin from the head and the mane: if the upper parts are not clean, to clean the lower parts is in vain.

One may note Theomnestus' use of *φιλοκαλέω* to mean 'to groom'. Both authors express concern for the safety of both horse and handler. Xenophon recommends that the groom stand by the horse's shoulder in order to avoid being kicked while picking out the feet, while Theomnestus explains how one can prevent kicking and make the horse lift its foot more readily by drawing the tail between the hind legs and twisting it up against the flank.⁷⁹

εἶτα τῆς οὐρᾶς λαμβανόμενος φερέτω διὰ τῶν ὀπισθίων [βουβώνων] καὶ ἐξαγαγὼν εἰς
λαγόνᾳ περιειλεῖτω διὰ τῆς ἀριστερᾶς χειρὸς μέχρι πέρα τῆς τριχώσεως, καὶ ἐπερείσας
αὐτὴν κατ' αὐτῆς τῆς κοτύλης, ἰσχυρότερον τὴν δεξιὰν φέρων ἐπὶ τὸ μεσοκύνιον, . . .
οὕτω γὰρ ποιῶν οὔτε λακτισθήσεται καὶ ἐτοιμότερον κατασκευάσει τὸν πῶλον πρὸς
ἄρσιν τοῦ ὀπισθίου ποδός.

Then, holding the tail, let him bring it between the hindquarters and draw it out toward the flank, and wrap it around the left hand past the growth of the hair [i.e. up to the dock], and press it against the hip, while bearing heavily with the right hand upon the pastern, . . . for by doing this he will not be kicked, and he will also make the colt lift its hind leg more readily.

⁷⁸ C93.19, CHG II pp. 235–6; Xen. *De re equ.* V.5.

⁷⁹ C93.20, CHG II p. 236; *De re equ.* VI.1–2.

Whereas Xenophon had declined to speak of breaking, in his opinion a matter best left to professionals,⁸⁰ Theomnestus gives detailed advice on the subject. Nevertheless, he echoes Xenophon's words, and the classical author's humane approach, recommending that the colt be accustomed gradually to human touch, rather than broken by force.

Theomnestus

συνεθιζόμενος ἀνθρώποις ἐκ νέου καὶ
γιγόμενος χειροθήης ἔσται χρόνῳ
συνηθείας, οὐ βία πέδης,
καθημερούμενος.⁸¹

Being accustomed to people from a young age, and becoming used to the hand, it will be tamed through habit, over time, not by the force of the hobble.

Xenophon

ὅπως μέντοι πρῶός τε καὶ χειροθήης καὶ
φιλάνθρωπος ὁ πῶλος ἐκδιδῶται τῷ
πωλοδάμῳ ἐπιμελητέον.

One ought to see to it that the foal be given over to the trainer gentle, used to the hand, and fond of man.

Theomnestus' advice about breaking reflects its context in a medical manual: he mentions that care should be taken, when exercising the colt, to avoid chills which bring on cough and 'tetanos'. The colt should not be ridden before the age of two, lest his back be hurt. The browband of the bridle should be fastened tightly so that it does not become twisted and damage the eye.⁸² Theomnestus does not depend on Apsyrus' treatment of schooling, which is focused on the cavalry-horse.⁸³

SOURCES OF THE VETERINARY MATERIAL

In the passage from CL discussed above, Theomnestus' text has been shown to correspond closely to that of Xenophon, presumably through Cassius Dionysius. For medical information, Theomnestus draws from Cassius Dionysius, other veterinary manuals, and his own experience.

A passage preserved only in M demonstrates how Theomnestus integrates quotations into his work. At the end of his discussion of glanders Theomnestus pays homage to the ancients as an introduction to a series of passages from older texts:

εἰρηκότες περὶ μάλεως καὶ τῶν ταύτης διαφορῶν καὶ ἐπιγνώσεως θεραπειῶν τε καὶ ἀποθεραπειῶν, ὥς γιγνώσκομεν αὐτοὶ θεραπεύσαντες ἐκ λόγου καὶ πείρας, εἴπωμεν καὶ

⁸⁰ *De re equ.* II.1.

⁸¹ C93.18, *CHG* II p. 235.

⁸² C93.18–20, *CHG* II pp. 235–7.

⁸³ M896 = B116, *CHG* I pp. 375–6.

τὰ παρὰ τοῖς ἀρχαίοις μὴδὲν φθονήσαντες. τὸ γοῦν ἐκ περιουσίας οὐ περιττόν.⁸⁴ εὖ πορον δὲ ἐν ταῖς θεραπαίαις Ἰππαίου μερὶ μάλεως, ὃς Θηβαῖος ἀπὸ τῆς Ἑλλάδος Θηβῶν τῶν ἐπαπύλων γράφει περὶ μάλεως ἀρθρίτιδος, ὡς σημειωσόμεθα τὴν ἀρθρίτιν μάλιν ἐντεῦθεν...⁸⁵

Having spoken about glanders and its varieties and diagnosis and treatments and cures which we ourselves know, having made treatments from book-learning and experience, we shall also speak of the things that we have from the ancients, not scorning these at all, since ‘too much is never enough’. There is an easily prepared remedy among the treatments of Hippaios, who was a Theban from Seven-Gated Thebes in Greece; he writes about glanders of the joints, so we shall present a notice on glanders of the joints from that source...

We have seen that in the section on hippology, Theomnestus paraphrases Simon and Xenophon without mentioning them or an intermediary source by name—unless an attribution was cut out by the excerpter. But in the case of veterinary authors, he is careful to name them when citing their recommendations.

Νήφοντος θεραπεία μάλεως ἀρθρίτιδος

Nepheon's treatment for arthritic glanders

Ἀγαθοτύχου εἰς τὸ αὐτό

From Agathotychus, on the same

*Κασσίου περὶ πνεύμονος*⁸⁶

From Cassius, on the lung.

Hippaios and Nepheon are cited once each by Theomnestus, while Agathotychus and Cassius each appear three times.⁸⁷ An excerpt on the heart attributed to Cassius is close to a passage from Eumelus, as we have seen.⁸⁸

Theomnestus may also have consulted a work on medicinal plants: his description of comfrey includes not only the etymology of the plant's name, but also a list of synonyms, which includes the name used by the ‘prophets’ and is thus related to the lists (drawn probably from Pamphilus) which figure in the so-called alphabetical recension of Dioscorides:

⁸⁴ In the *Souda*, s.v. ἐκ περιουσίας (Adler, E 563), Aristotle's definition (*Top.* 118a6) is cited. Elsewhere Theomnestus refers to a recipe as ἐκ περιουσίας, M256 = B26.39, *CHG* I p. 138.

⁸⁵ M33, *CHG* I pp. 25–6.

⁸⁶ M34–5 = B2.23–4, *CHG* I pp. 26–7; M538 = B5.4, *CHG* I p. 4.

⁸⁷ Cassius M428 = B29.6, *CHG* I p. 148; M538 = B5.4, *CHG* I p. 41; M545 = B32.3, *CHG* I p. 161.

⁸⁸ Cassius M428 = B29.6, *CHG* I p. 148; Eumelus M427 = B29.8, *CHG* I p. 149; cf. Björck, ‘Zum *CHG*’, 56, Speranza, fr. 55.

βοτάνη τίς ἐστὶν ἐν τοῖς τείχεσι καὶ ταῖς πέτραις γεννωμένη, ἣν ἱατρῶν παῖδες πολύγονον ὀνομάζουσιν σπειρωτόν, ἰδιῶται δὲ σύμφυτον, καὶ Μακεδόνες ὀστεοκόλλον, προφήται παλλάντιον αὐτὴν καλοῦσιν. ἣν φασὶ ἐφομένην διαμεμοιραμένοις κρέασιν ἐνοῦν αὐτά. διὸ καὶ σύμφυτος ὀστεοκόλλος δὲ καλῶς καλεῖται, ἐξ οὗ δρᾶν ὀνομασίαν ἔχουσα.⁸⁹

There is a certain herb which grows on walls and stones, which the children of doctors call sown *polygonum*, laymen call *symphyton*, Macedonians *osteokollon*, the prophets *pallantion*. They say that when it is boiled it unites flesh which has been divided, on account of which it is rightly called 'grow-together' and 'knit-bone', having its appellation from what it does.

Theomnestus' principal source for medical material is the treatise of Apsyrthus. In the Greek text preserved in the *Hippiatrica*, Theomnestus mentions Apsyrthus by name only once, in his discussion of mange (ψώρα), alluding to Apsyrthus' description of that disease as a variety of subcutaneous glanders:

Ἀψυρτος γὰρ τοῦτο τὸ πάθος ἐκ τοῦ τόπου ὑποδερματῖτιν μᾶλιν καλεῖ. οὐ διαφέρομαι δὲ ὀνόματι τὸ γένος εἰπὼν τοῦ πάθους.⁹⁰

Apsyrthus calls this disease subcutaneous glanders from its localization. I do not differ in calling this type of the disease by that name.

But the fact that both treatises appear together in the *Hippiatrica* makes evident their numerous parallels. The amount of material that excerpts from the two authors have in common strongly suggests that Theomnestus had Apsyrthus' text before him, or at any rate knew it well. In some cases, entire recipes are paraphrased: the purging medicine consisting of broth of puppy is an example. Moreover, in Apsyrthus' text, the recipe comes first in the chapter on drenches, immediately after the phrase λέγω δὴ πρῶτον ἐγχυματισμῶν σκευασίας καθαρτικάς;⁹¹ while the lemma of M for Theomnestus' version, Θεομνήστου καθαρτικῶν φαρμάκων ἔκθεσις, suggests that the recipe was similarly situated in his treatise.⁹² Another recipe, the mixture of pine nuts and raisins recommended by Theomnestus for horses who are in poor condition for no apparent reason, is identical to one given by Apsyrthus⁹³—though Theomnestus adds that it is an Armenian discovery (Ἀρμενίων εὕρημα), and moreover that it is known to him through much experience (ἐμοὶ διὰ πείρας πολλῆς ἔγνεται).⁹⁴

⁸⁹ M586 (altered in B66.5), *CHG* I p. 260; the text is different from Dioscorides' treatment of comfrey, as pointed out by Oder and Hoppe, ad loc. On the synonym lists, cf. Wellmann, 'Die Pflanzennamen bei Dioskurides'.

⁹⁰ M298 = B69.16, *CHG* I p. 273. The quotation is accurate: M291 = B69, *CHG* I pp. 268–9, [ψώρα] ἔστι γὰρ ἀνάχυσις μάλεως τῆς ὑποδερματίτιδος.

⁹¹ M759 = B129.1–2, *CHG* I p. 385.

⁹² M1086 = B130.147, *CHG* I p. 428.

⁹³ Aps. M619 = B62.4, *CHG* I p. 253.

⁹⁴ Theomn. M89 = B68.5, *CHG* I pp. 265–6.

Theomnestus

Ἀντιδότῳ χρῆσις πρὸς τὰ κρυπτόμενα πάθη
 Ἀρμενίων εὖρημα γράφω σοι διὰ πείρας
 ἡμῖν πολλῆς γενόμενον. κρόκου στατήρας
 δύο, ἵρεως Ἰλλυρικῆς κεκομμένης
 στατήρας ἑβ', πεπέρεως στατήρας ἕξ,
 μέλιτος ἡμικοτύλιον, σταφίδων
 ἡμιχοίνικον τῶν γιγάρτων ἐξηρημένων,
 στροβιλίων καθαρῶν τὸ ἴσον τῇ σταφίδι,
 ἐν ταύτῳ μίξας καὶ οἶνον εὐόδους
 ἡμικοτύλιον καὶ ἐλαίου κοτύλης τὸ
 τέταρτον, ἐγχυμάτιζε ἐκ τούτου τὸ ζῶον
 ὅσον κοχλιάρια δυο.

A discovery of the Armenians for use as an antidote against hidden ailments. I write it for you as we have tested it through much experience. Two staters saffron, 12 staters chopped Illyrian orris-root, six staters pepper, half a cotyle of honey, a half-choinx of raisins with the seeds removed, clean pine nuts in the same quantity as the raisins, mixing them up together with half a cotyle of fragrant wine and a quarter of a cotyle of oil, drench the animal with two cochlears of this.

In one case, Theomnestus seems to be criticizing Apsyrthus as well as repeating Apsyrthus' criticism of a source:⁹⁶

Theomnestus

πολλὰ μὲν οὖν γέγραπται τοῖς ἀρχαίοις
 περὶ τῆς ἰσχυρίας τεχνικὰ βοηθήματα, τό
 τε διὰ τῶν σκορόδων καὶ κρομμύων καὶ ἡ
 ἐκτροφή τῆς κύστεως διὰ τῆς ἔδρας, ἅπερ
 ἐπικινδυνώτερα τοῦ πάθους μᾶλλον εἰσι

Apsyrthus

Ὅμοιως καὶ εἴ τι ἄλλο ἀσθένημα ἔχει ἐν
 πνεύμονι ἢ ἀπισχναίνεται χρῆσις σύνθεμα
 τοιοῦτῳ· κρόκου στατήρας δύο, ἵρεως
 Ἰλλυρικῆς κεκομμένης καὶ σεσημμένης
 στατήρας δώδεκα, πεπέρεως στατήρας ἕξ,
 μέλιτος κοτύλης τὸ ἥμισυ, σταφίδος
 ἡμιχοίνικον τῶν γιγάρτων ἐξηρημένων,
 στροβιλίων καθαρῶν τὸ ἴσον τῇ σταφίδι
 ἐκ τούτου ἐγχυμάτιζε κοχλιάρια δύο μετ'
 οἶνου ἡμικοτυλίῳ καὶ ἐλαίου τετάρτῳ τῆς
 κοτύλης διὰ τοῦ στόματος.⁹⁵

Similarly, if it has any other affliction in the lung or if it is thin, use this preparation: Two staters saffron, twelve staters chopped and sifted Illyrian orris-root, six staters pepper, half a cotyle of honey, a half-choinx of raisins with the seeds removed, clean pine nuts in the same quantity as the raisins. Drench the horse through the mouth with two cochlears of this along with a half-cotyle of wine and a fourth of a cotyle of oil.

Apsyrthus

ἐνεργεῖ δὲ καὶ τοῦτο· κρομμύων τὰ μακρὰ,
 ἅτινά ἐστι δριμύτερα, ἀποκαθάραντα καὶ
 θάλασσαν ὅσον ἐ κεφαλᾷ, ἐντιθέσθαι εἰς τὴν
 ἔδραν . . .

⁹⁵ J. Dum-Tragut notes that the recipe appears in an Armenian book on horse medicine of the late 13th c.: *Kilikische Heilkunst für Pferde*, 167. This work draws on Arabic texts, including Ibn Akhī Hizām; so Theomnestus may well be the source of the remedy.

⁹⁶ Theomn. C24.7, *CHG* II p. 162; Aps. M59 = B33.2–3, *CHG* I p. 165; cf. Pel. B33.16, *CHG* I p. 173.

βοηθήματα . . .

Many artful remedies have been written by the ancients for ischury: the one with garlic and onions, the twisting around of the bladder through the rectum—which remedies are in fact more dangerous than the disease.

οὐκ ἀληθεύουσι δέ τινες ἐν τοῖς τοιούτοις διορθῶσαι δεῖν τὴν κύστιν, καὶ καθιᾶσαι τὴν χεῖρα διὰ τῆς ἑδρας . . .

And this works too: cleaning thoroughly and crushing long onions, the ones which are very sharp, insert them into the rectum . . . Some people are not correct when they say in such cases that it is necessary to adjust the bladder, and put the hand in through the rectum . . .

What was Apsyrthus' source in this case? The onion remedy is recommended for indigestion in cows in Columella,⁹⁷ by Anatolius for dysury in *Geoponica* XVI and for twisted intestine in cows in *Geop.* XVII.⁹⁸ It is likely that the remedy is from Cassius Dionysius—Diophanes.

Theomnestus' use of Apsyrthus is especially interesting as a foil to Pelagionius' use of the same source. Whereas the latter is content, as we have seen, merely to rephrase Apsyrthus, Theomnestus adapts his source, as we see in his instructions for setting right a sprained neck:⁹⁹

Theomnestus

Συμβαίνει ἵπποις καὶ ἄλλοις ὑποζυγίοις παραγαγεῖν τράχηλον, ὅταν πρῶτον δεθῇ καὶ πρὸς δένδρον προσαφθῇ, ἀγανακτῶν καὶ διαστρεφόμενος, ἢ κακουργῶν ἐν ζυγῷ ἢ καταστραφέντος ὀχήματος ἐκστραφείσης τῆς ζεύξεως· καὶ γίνεται τοῦ τραχήλου αὐτοῦ τὸ ἐν μέρος κοῖλον, τὸ δὲ ἕτερον κυρτόν. τούτον θεραπεύσομεν, στρωννύντες ἐπὶ τὴν γῆν τὸ κοιλότερον τοῦ τραχήλου καὶ τὸ κυρτὸν ἐπάνω, καὶ βαροῦντες ἰσχυρῶς ἀνωθούμεθα, ἕως οἱ σπόνδυλοι τῆς παραγωγῆς εἰς τὸ κατὰ φύσιν ἔλθωσιν, εἴθ' οὕτως πόρπακας μυρικίνους ποιεῖν τρεῖς, καὶ τῷ σχαστηρίῳ τρυπᾶν τοῦ τραχήλου κατὰ τὸ κυρτόν

Apsyrthus

Ἀψυρτος Ὁρίωνι Ἀλεξανδρεῖ χαίρειν. ἔγραψάς μοι ζητῶν, ποία μεθόδῳ τὴν ἔκπτωσιν τοῦ τραχήλου ἐν τοῖς ἵπποις εἰς τὸ κατὰ φύσιν καταστήσεις. γινώσκων οὖν σε θέλω, ὅτι οὐκ ἔστιν ἐκβολή, ἀλλὰ παραγωγή. ἐν οἷς τινες ἐπιδέσμοις χράμενοι διὰ τῶν πλαστίγγων καὶ κειριῶν οὐδὲν ἀγαθὸν ποιοῦσιν. ἡμέτερον δὲ εὖρημα τοῦτο. δεῖ ἐστῶτος τοῦ ἵππου τὸ παραηγμένον μέρος τοῦ τραχήλου καὶ κεκυρτωμένον ἀνώσασθαι, εἴθ' οὕτως πόρπακας ποιήσαντας μυρικίνους ἐπιτιθέναι τῷ τόπῳ παρὰ βύρσαν, ἀντιπόρους τρυπώντας τῷ σχαστηρίῳ. τὸ δὲ ἄμμα ποιεῖν βρόχον τὸν καλούμενον

⁹⁷ Col. VI.6.5, salis sextans cum cepis decem conteritur, et admixto melle... immituntur alvo, atque ita citatus bos agitur.

⁹⁸ *Geop.* XVI.13 τινὲς κρόμουν, τοῦ λέπους ἀφαιρεθέντος, περὶ τὴν κύστιν τιθέασιν; XVII.19.4 ἄλλοι κρόμυα καὶ ἄλας ἐνώσαντες καὶ σφηνώσαντες εἰς τὴν ἑδραν ἐσωτάτω προσωθοῦσι, καὶ τρέχων ἀναγκάζουσιν.

⁹⁹ Aps. B24.1, *CHG* I p. 121; Theomn. M121 = B24.3, *CHG* I p. 122.

γεγονὸς μέρος ἐκ διαστήματος ἴσου, καὶ διελεῖν αὐτοὺς ὑπὸ δέρμα, καὶ ἀποδεσμεῖν διὰ τῆς βύρσης σχοινίῳ εὐτόνως στραφέντι κανναβίνῳ, ἔχοντι πάχος νευραίας. τὸ δὲ ἄμμα ποιεῖν βρόχον τὸν καλούμενον λύκον, καὶ ἀποδεσμεύειν, ἀποβρέχειν τε ὀξελαίῳ τρίς τῆς ἡμέρας, καὶ τούτῳ συλλαμβάνειν τοὺς πόρπακας, ἄχρις ἀποπέσωσιν, καταντλεῖν τε ὕδατι θερμῷ καὶ θεραπεύειν. οὕτω γὰρ οὐκέτι διαστραφήσεται.

It happens that a horse or other beast of burden suffers a strain of the neck when it is first tied and struggling and twisting about it collides against the tree; when injured in the yoke; or if the cart is overturned, and the yoke is twisted out of place. And its neck becomes hollow on one side, and bowed on the other. We treat such a one by placing the hollow part of the neck on the ground and the bowed part up, and weighing upon it strongly, we straighten it, until the strained vertebrae come to their natural state. Then make three fibulas of tamarisk [branches], and piercing the neck with a lancet at equal intervals on the bowed part, insert these under the skin, and bind around the hide with a well-twisted hempen rope having the thickness of a sinew cord. Make a slip-knot, the so-called wolf, and tie down—soak with oil-and-vinegar three times a day—and with this gather the fibulas until they fall off, and rinse with warm water and treat. In this way it will not twist out of place again.

λύκον, καὶ οὕτως συλλαμβάνειν τοὺς πόρπακας καὶ καταδεσμεῖν, καταβρέχειν τε ὄξει καὶ ἐλαίῳ δις τῆς ἡμέρας τὸν τόπον ἄχρις ἂν ἀποπέσωσιν, καταντλεῖν τε ὕδατι θερμῷ καὶ θεραπεύειν τὰ ἔλκη τῇ λιπαρᾷ, καὶ ἔσται ὑγιής. ἔστω δὲ τὸ σφήκωμα λινοῦν ἢ καννάβινον, τὸ πάχος ἔχον χορδῆς τοξικῆς.

Apsyrtus to Orion the Alexandrian, greetings. You wrote to me asking by what method you might restore dislocation of the neck in horses to the natural state. I want you to know that it is not a dislodging but a twisting out of place. In these situations, some people, using bindings and splints and bandages do no good. This is our discovery: one ought to straighten the strained and bowed part of the neck while the horse is standing. Fashioning fibulas out of tamarisk, apply them to the place against the hide, making piercings for the fibulas with a lancet. Make a slip-knot, the so-called wolf, and in this way gather the fibulas and tie them down. Soak the place with vinegar and oil twice a day, until they fall off; then rinse with warm water and treat the wounds with the fatty [ointment], and it will be healthy. Let the cord be of linen or hemp, having the thickness of a bowstring.

Here we see Theomnestus adapting information taken from Apsyrtus almost verbatim by adding to it what we shall see are the hallmarks of his style: the phrase ἵπποις καὶ ἄλλοις ὑποζυγίοις, the discussion of the cause of the condition with attention to anatomy; the first-person transitional phrase τοῦτον θεραπεύσομεν, and finally the guarantee at the end of the passage.

Theomnestus concerns himself to a greater extent than other authors in the *Hippiatrica* with definitions of diseases and with their aetiology, his detailed discussions of which show familiarity with anatomy, physiology, and humoral

theory.¹⁰⁰ His description of an eye disease includes a striking analogy; his source here is unknown:

περύγια παχέων χυμῶν αἵματος καὶ φλέγματος κατὰ κεφαλὴν συστάντων, ἀνωτερικαὶ τινες ἐπιφύσεις εἰσὶν ἐπιφερόμεναι τοῖς ὀφθαλμοῖς, σώματά τινα ὑμενώδη, ὧν αἵμαχθέντων αἱ ρίζαι φαίνονται, ἀλλὰ τὴν κόρην οὐδὲν ἀφ' ἑαυτῆς νοσοῦσαν, αἱ δὲ νέφους δίκην αὐτὴν ὑπ' αὐτῶν ὡς ἀστέρα καλύπτουσαι ἀορασίαν νοσοῦσιν.¹⁰¹

Pterygia are growths that accumulate above the eyes, when thick humours of blood and phlegm are impacted in the head; they are membranous bodies, whose roots are visible when bloodshot. The pupil itself is not afflicted at all, but they inflict sightlessness on it, like a cloud ever covering over a star.

The definition of glanders includes the rare term *δυσδιαφόρητος*:¹⁰²

μάλις ἐστὶ χυμῶν σεσηπότην δυσδιαφόρητος ἔνστασις, καθὸ μέρος ἐνίσταται τοῦ σώματος, ἐκείθεν τὴν ἰδικὴν ἐπωνυμίαν ἔχουσα. διαφοραὶ δὲ τοῦ νοσήματος δύο, ἡ μὲν γὰρ αὐτῶν ἐστὶ ξηρά, ἡ δὲ ὑγρά. καὶ ἡ μὲν ξηρὰ ἀφανής, ἡ δὲ ὑγρὰ φαινομένη. φέρεται γὰρ διὰ μυκτήρων ἰχὼρ φλεγματοῦ εἰς τὸ λευκὸν χρῶμα μεταβεβλημένος, ὅθεν καὶ μάλιν τὸ πάθος καλοῦσιν, ἀπὸ τῆς χροῆς τὴν ὀνομασίαν ἐπιθέντες.¹⁰³

Glanders is an impaction of putrid humours, difficult to dissipate. It takes its specific appellation from whatever part of the body it impacts. There are two varieties of the disease: the first of these is the dry, and the other the wet. The dry is invisible, and the wet visible. For a phlegm-like fluid is produced through the nostrils, tending to be pale in colour, from which they call the disease *malis*, assigning it an appellation from its colour.

Theomnestus' division of glanders into two types represents a departure from the fourfold division of the disease repeated by Eumelus, Pelagonius, and Apsyrus. His definition of mange includes a reference to Apsyrus' definition of glanders, as we have seen:

ἡ ψωρίασις ἐν τοῖς ἵπποις καὶ τοῖς ἄλλοις ὑποζυγίοις οὐδὲν ἐστὶν ἢ χυμὸς χολῶν καὶ αἵματος σεσημμένου διὰ θερμότητα ὑπερξεσάντων τοῦ βάθους καὶ ἔξω κεχωρηκότων εἰς τὴν ἐπιφάνειαν. Ἀψυρτος γὰρ τοῦτο τὸ πάθος ἐκ τοῦ τόπου ὑποδερματῆτιν μάλιν καλεῖ.¹⁰⁴

Mange in horses and other beasts of burden is nothing but the humour of putrefied biles and blood, boiling over through heat from the depths and making its way out to the surface. Apsyrus calls this disease subcutaneous glanders, from its location.

We see the same use of litotes in the introductory sentence and also the phrase 'horses and other beasts of burden' in the opening of his chapter on '*tetanos*':

¹⁰⁰ See Björck, 'Zum CHG', 55–6.

¹⁰¹ M371 = B11.39, CHG I pp. 69–70.

¹⁰² See R. J. Durling, 'Lexicographical Notes on Galen's Writings II', *Glotta*, 58 (1982), 264 on *δυσδιαφορησία* 'difficulty of dissipation ... almost certainly rare'.

¹⁰³ M31 = B2.18, CHG I pp. 22–3.

¹⁰⁴ M298 = B69.16, CHG I p. 273.

ὁ τέτανος τοῖς ἵπποις καὶ τοῖς ἄλλοις ὑποζυγίοις οὐκ ἄλλως ἢ ἀπὸ ψύχους γίνεται, ὅταν
 (τὰ Β) στερεὰ πάθη καὶ νευρικὴν συμπάθειαν ὑπομείνη. καλεῖται δὲ τέτανος ἀπὸ τοῦ
 τετάσθαι ὅλον τὸ σῶμα...¹⁰⁵

‘*Tetanos*’ occurs in horses and other beasts of burden from nothing other than cold, when the solid [tissues] are afflicted and it undergoes a sympathetic affection of the sinews. It is called *tetanos* because the whole body is tensed...

Theomnestus’ style, as we have seen, is varied. In medical definitions his language is formal: a description of the relation of lung and heart was identified by Oder and Hoppe as reminiscent of Plato.¹⁰⁶ In his instructions he uses formulaic phrases. The verb ἐκθήσομαι is Theomnestus’ standard introduction for both descriptions of diseases and for recipes, e.g. φάρμακον ἐκθησόμεθα θαυμαστόν ‘I will set forth an amazing drug.’¹⁰⁷ Enthusiasm is also a trait of Theomnestus’ style: his recommendations of medicines almost always come with a guarantee, given as a coda at the end of the prescription, and almost colloquial in tone:

καὶ θαυμάσεις αὐτό¹⁰⁸ (and you will be amazed by it);

καὶ θαυμάσεις τὴν δύναμιν¹⁰⁹ (and you will be amazed at its power);

ἐκθήσομαι ταῦτα εὐδοκίμοις οὔσι καὶ ταῦτα θεραπεύουσι θαυμασίως¹¹⁰ (I will set forth these things which are tried-and-true and heal amazingly);

ἢ γὰρ παντελῶς ὑγιάσεις τὰ πεπονθότα, ἢ ἐκ παντὸς παρηγορήσεις¹¹¹ (either you will heal the afflicted parts entirely, or you will on the whole assuage them).

¹⁰⁵ M319 = B34.11, *CHG* I p. 183.

¹⁰⁶ M537 = B7.6, *CHG* I p. 46. Oder and Hoppe, ad loc., cite *Timaeus* 31.

¹⁰⁷ M33 = B2.21, *CHG* I p. 25.

¹⁰⁸ M473 (omitted from B22.11), *CHG* I pp. 106–7 app.

¹⁰⁹ M475 (omitted from B22.20), *CHG* I p. 109 app.

¹¹⁰ M35, *CHG* I p. 27 app.

¹¹¹ M1111, *CHG* II p. 109.

Hierocles

HIEROCLES has, on the whole, received a harsh verdict from modern scholars. In Oder's view, 'impudentissime posteriorum omnium Hierocles... Apsyrtum compilavit'. To Björck, he is 'l'ennuyéux plagiaire Hiérocès'; according to Doyen-Higuet, he 'literally pirated his predecessor's work'.¹ Hierocles has elicited this criticism because his treatise consists for the most part of a paraphrase of Apsyrtus' text into a more elegant style,² with the addition of material from a few other sources and of two rhetorical prooimia. He is certainly not an original writer, and not once in what has survived of the text does Hierocles refer to his own experience with horses. But the charge of plagiarism is an anachronistic one: in antiquity, technical material was freely reused and adapted.³ All of the authors in the *Hippiatrica* draw upon the work of their predecessors; Hierocles does so uncritically, but he cites his sources consistently.

Moreover, there was a long tradition in Greek literature of amateurs writing practical handbooks with other amateurs in mind, usually by putting someone else's material into more attractive literary form. The best-known examples are the *Phaenomena* of Aratus and the *Theriaca* and *Alexipharmaca* of Nicander, paraphrases of the manuals of Eudoxus and Apollodorus of Alexandria, respectively, into hexameter verse. Varro, too, put his compilation on agriculture into the form of a dialogue, and Columella's *De re rustica* is not without rhetorical flourishes. The Latin veterinary treatise of Vegetius, which consists of a reworking of Columella, the *Mulomedicina Chironis*, and

¹ Oder, 'De hippiatricorum codice Cantabrigiensi', 60; Björck, 'Le Parisinus gr. 2244', 513; cf. 'der ... Apsyrtus-Plagiator Hierocles', 'Zum CHG', p. 16; Doyen-Higuet, 'The *Hippiatrica* and Byzantine Veterinary Medicine', 114. An earlier draft of the present chapter was the source of the commentary in A. -M. Doyen-Higuet, 'Les prologues d'Hiérocès: Deux fleurs de rhétorique dans la Collection d'hippiatrie grecque', *Les études classiques*, 70 (2002), 27–51.

² In more general literature, ironically, he has received the highest praise: in Pauly-Wissowa he is 'einer der bedeutendsten Tierärzte des Altertums' (Gossens, 'Hierocles'); in the *Cambridge Medieval History*, 'one of the best of the veterinary doctors of Late Antiquity' (K. Vogel, 'Byzantine Science', p. 292); G. Sarton, in his *Introduction to the History of Science*, calls Hierocles 'a Greek veterinary surgeon, one of the greatest of antiquity' (I. 356).

³ On *retractatio*, see the comments of Dain, *Histoire du texte d'Élien le tacticien*, 26 ff.

Pelagonius, provides an analogy to Hierocles' work. What was the point of this sort of exercise? One of the *Vitae* of Aratus describes the commission from Antigonos Gonatas, king of Macedonia, to rework Eudoxus' description of the constellations into verse: *εὐδοξότερον ποιεῖς τὸν Εὐδόξον ἐντείνας τὰ παρ' αὐτῷ κείμενα μέτρῳ* 'you make Eudoxus more glorious (*eudoxoteron*) by putting his text into meter'.⁴ Whether or not it is historical, this passage reflects (in addition to the irresistible temptation to pun on names) the generally favourable view of such stylistic reworkings. The criticism that the works of non-specialists occasionally received was outweighed by the popularity of the texts, which often exceeded that of their sources.⁵

Unlike Vegetius, Hierocles does not criticize the language of his sources. But certainly the nature of the readership for which his treatise was destined must have influenced his mode of expression. Galen makes it clear that he is writing for doctors, who do not care (or ought not to) for fine phrasing in a medical text: 'these things are written not for those who are inclined to Atticize in speech, but for doctors, who do not care for Atticism' (*οὐ τοῖς Ἀττικίζειν ἐν τῇ φωνῇ προηρημένοις γράφεται ταῦτα... ἀλλ' ἰατροῖς μὲν μάλιστα, μὴ πάνν τι φροντίζουσιν Ἀττικισμοῦ*).⁶ Apsyrtus begins his treatise in a tone of professional gravity by stating his credentials, referring to the danger of losing horses to disease, and appealing to the doctor's concern for reputation.⁷ Hierocles, on the other hand, makes it clear that he is taking time off from his normal occupation as a lawyer to compose a treatise which he describes light-heartedly as *παιδιᾶς τρόπον*, 'a manner of playing'. Whereas Apsyrtus refers, in his preface, to *λόγος* and *πέιρα*, 'book-learning and experience', bywords of medical literature, Hierocles plays on the notions of *σπουδὴ* and *παιδιά*, 'work and play'.⁸ He was evidently not writing for professional horse-doctors, and could assume that his readers would savour the style of his prose. One imagines that these readers were the sort of educated laymen who would also have been interested in Aratus, Nicander, or Oppian.⁹ Hierocles' treatise does not provide any sort of first-hand

⁴ D. Kidd (ed. and tr.), *Aratos: Phaenomena* (Cambridge, 1997), 4. See also Stemplinger, *Das Plagiat*, 118 ff., on paraphrases.

⁵ e.g. Cicero *De oratore* I.69 *si constat inter doctos hominem ignarum astrologiae ornatissimis atque optimis versibus Aratum de caelo stellisque dixisse*; Galen *De simpl. med.*, ed. Kühn XI.793: *ὁ δέ γε Πάμφιλος ὁ τὰ περὶ τῶν βοτανῶν συνθεὶς εὐδηλὸς ἐστὶ καὶ αὐτῶν ὃν γράφει γραμματικὸς ὢν καὶ μὴ ἑωρακὼς τὰς βοτάνας ὑπὲρ ὧν διηγέται μήτε τῆς δυνάμεως αὐτῶν πεπειραμένος, ἀλλὰ τοῖς πρὸ αὐτοῦ γεγραφόσιν ἅπασιν ἄνευ βασάνου πεπιστευκός*; cited by Stemplinger, *ibid.*, 105.

⁶ *De alimentorum facultatibus*, ed. Kühn, vol. VIII p. 584.

⁷ M1, printed as B1.1 with additions, CHG I p. 1.

⁸ Cf. Xenophon, *Symposium* I.1.

⁹ More recent parallels listed in P. Dingley, *Historic Books on Veterinary Science and Animal Husbandry* (London, 1992), e.g. *Fitztharberts book of husbandrie ... now newlie corrected, amended, and reduced into a more pleasing forme of English than before* (London, 1598).

scientific information, but it is good evidence of a certain kind of Late Antique literary taste and education. This taste remained in vogue for a very long time, and medieval opinion of Hierocles' treatise, unlike that of modern scholars, was overwhelmingly favourable.

HIEROCLES' TEXT

Included together with its sources, Eumelus, Apsyrtus, and Theomnestus, in the veterinary canon of the *Hippiatrica*, Hierocles' treatise was favoured over the others in successive recensions of the compilation. Each of these recensions contains a very different selection of excerpts from Hierocles. The M recension contains 114 excerpts attributed to him; these consist for the most part of short passages which do not duplicate Apsyrtus' text. Hierocles' work received kinder treatment at the hands of the editor of the B recension, who not only retained passages that repeat Apsyrtus, but included the two prooimia—rhetorical ornaments with no practical value. It is in B that the greatest quantity of Hierocles' text survives: 120 long excerpts, as well as several series of recipes for drugs. In B, his name has been omitted from the lemmata of 52 excerpts, most of them recipes at the end of the compilation.¹⁰ C does not contain the prooimia, but does contain seven passages of Hierocles's work which are neither in B nor in M.¹¹ In the L recension, Hierocles' text is given priority over that of Apsyrtus: in the event of duplication, the latter's work is left out. But L does not provide any additions to the text of Hierocles in M, B, and C: about 110 of the same passages are repeated, some consisting of agglomerations of two or three excerpts from B; the prooimia are included, and a number of passages are also falsely ascribed to Hierocles.¹² Hierocles' treatise is, along with those of Apsyrtus and Pelagonius, one of the most extensively used sources of the *Hippiatrica*; it seems to have been one of the longer sources. It seems likely that the first hippiatric compilation ('A') contained all of Hierocles' text, despite the substantial overlap with those of Apsyrtus and Theomnestus.

Hierocles is, apart from Anatolius, the only hippiatric author whose treatise is transmitted outside of the compilation in Greek: the so-called RV recension consists of an artificial reconstitution of Hierocles' two books out of excerpts

¹⁰ Listed *CHG* II p. xiii.

¹¹ Oder, 'De hippiatricorum codice Cantabrigiensis', 60.

¹² e.g. Apsyrtus' discussion of breeds, B115, *CHG* I pp. 372–4.

appearing under his name in the B recension of the *Hippiatrica*. The RV recension does not contribute any additions to the text of Hierocles transmitted in the M, B, and CL recensions of the *Hippiatrica*, but the fact that a reconstitution of the text was made from excerpts would appear to be evidence of the esteem in which the treatise was held in the Middle Ages (Pls. 16, 18). Indirect testimony to Hierocles' reputation as a veterinary authority is provided by the tenth-century recension of the *Geoponica*, in which chapters are falsely attributed to him.¹³

Three translations of Hierocles' text were made into the languages of the medieval West. It may have been by chance that a copy of his text, rather than that of another author, travelled to Sicily; but it is not unlikely that Hierocles' allusions to Aristotle attracted the interest of the translator Bartholomew of Messina, or of the latter's patron, King Manfred. Bartholomew's translation is preserved in at least nine manuscripts. There also exists a version in Sicilian dialect. An Italian translation of the reconstitution of Hierocles and the *Epitome* exists in three manuscripts.¹⁴ Hierocles is quoted in the *Clavis Sanationis* of Simon of Genoa (d. 1303), no doubt via Bartholomew's translation.¹⁵

CONTENTS AND STRUCTURE

The structure of Hierocles' treatise may be reconstructed with the aid of cross-references preserved in the excerpts. Allusions to a second volume—presumably the treatise was published in the form of two rolls—are confirmed by the presence of the two prooimia, and of brief conclusions to each of the two books. There is no indication that the books represented a division by subject. At the end of the second volume was an appendix consisting of recipes for the preparation of drugs, a feature present in the treatises of Apsyrtus and Theomnestus.

The M recension omits the greater part of the first prooimion, preserving only its last few lines, which discuss the age at which a mare may be bred, in the context of a series of excerpts on breeding.¹⁶ But whereas in B the

¹³ *Geoponica*, XVI.9–11.

¹⁴ Manuscripts of the translations are listed in S. Lazaris, 'Contribution à l'étude de l'hippiatrie grecque et de sa transmission à l'Occident (XIIIe–XVe siècles)', in M.-C. Amouretti and F. Sigaut (eds.), *Traditions agronomiques européennes: Élaboration et transmission depuis l'Antiquité*. Actes du 120e congrès national des sociétés historiques et scientifiques, Aix-en-Provence, 23–25 oct. 1995 (Paris, 1998), 137–69.

¹⁵ Björck, 'Apsyrtus', 37–8.

¹⁶ Near the end of the compilation: M1039 = last part of B1.13 with 1.14, *CHG* I p. 6 (readings of M).

prooimion ends by introducing a chapter on fever, the text in M implies that the work began with a different subject: 'so that we may begin from the greatest things, we shall speak first of glanders' (ὥν οὖν ἀπὸ τῶν μεγίστων ἀρξώμεθα, περὶ μάλεως πρῶτον ἐροῦμεν), a reading accepted as genuine by the editors of the text,¹⁷ and corroborated by the beginning of the chapter on glanders: 'There are four types of the so-called *malis*, which might be considered the greatest and most dangerous of diseases' (τῆς καλουμένης μάλεως, ὃ μέγιστον ἂν νομίζοιτο τῶν ἀρρωστημάτων καὶ σφαλερώτατον, ἔστι γένη τέσσαρα)¹⁸—here Hierocles appears to be echoing Apsyrtus, whose chapter on glanders, second in M and B after the chapter on fever, begins 'I shall make known to you the greatest sickness of those that befall them... which many call *malis*' (ἐπιδείξω σοι τὸ μέγιστον ἀρρώστημα τῶν ἐμπιπτόντων εἰς αὐτοὺς... ὃ καλοῦσιν οἱ πολλοὶ μάλιν).¹⁹ There are few other references to the order of subjects:

ὅταν κοιλίαν ἱππος ἀλγῇ... τὰ δὲ λοιπὰ οὐ ποιεῖ, ἀφ' ὧν ὁ δυσουριῶν γνωρίζεται, περὶ οὗ ἐφεξῆς ἐροῦμεν.²⁰

When a horse is ailing in its stomach... it does not do the rest of the things by which one with dysuria (about which we shall shortly speak) is recognized.

In this instance the nature of the *Hippiatrica*, that is, its juxtaposition of different authors, allows us to observe that Hierocles is following the order of subjects in Apsyrtus' treatise.²¹ The chapter on inflammation of the tonsils (παρίσθμια), which contains the recommendation 'the cure is the same as the one for tumour of the parotid gland' (ἴασις δὲ ἡ αὐτὴ καὶ ἐπὶ τῆς παρωτίδος), would appear to have followed the discussion of παρωτίδες.²² At the end of a short passage on bristly hairs that cause itching in the tail, περὶ ὑστρίχιδων, the end of book I is signalled with an appropriate cliché:

μέτρον ἄριστον· εἶπε που τῶν σοφῶν τις ἐν ἀποφθέγμασιν ᾧ χρὴ πειθομένους, τοῦτο πέρας ἐπιθεῖναι τῇ πρώτῃ βίβλῳ.²³

'Moderation is best,' as one wise man said among his maxims; obeying this, we must put an end to the first book.

The preface to Hierocles' second volume is entirely omitted from M. In B, it appears, logically, after the chapter on ὑστρίχιδες. The next chapter is on

¹⁷ M1039, *CHG* I p. 6 apparatus and *CHG* II p. xii.

¹⁸ B2.10, *CHG* I p. 18 (this section not in M).

¹⁹ B2.1, *CHG* I p. 13. ²⁰ M592 = B31.1, *CHG* I p. 156.

²¹ Cf. Aps. B33.1, *CHG* I pp. 163–70; Hi. B33.12, *CHG* I pp. 170–2.

²² B18, *CHG* I p. 92.

²³ M1154 = B59.1, *CHG* I p. 248 (reading of M). The same proverb quoted by Columella, I.3.8.

infection of the mouth and throat, *περὶ ἀφθήσεως*, but there is no indication of whether the chapter occupied that position in Hierocles' original arrangement.²⁴

The phrase which closes book II, after the chapter on putting horses out to grass in springtime, echoes the end of book I, and introduces a collection of recipes for drugs:

*πέρας μὲν οὖν ἔχει τὸ σύγγραμμα. συντάγματα δὲ καὶ βοηθήματα τούτῳ ὑπετάξαμεν, ἵν' ὑπάρχη πᾶσιν γινώσκων, πῶς ἕκαστα τούτων κατασκευάζεται.*²⁵

The treatise has come to an end. But we have appended recipes and remedies to it, in order that it be possible for all to know how each of them is prepared.

There are also a number of internal references to the drug recipes. These two, from the chapters on eye conditions (*περὶ ὀφθαλμῶν*) and on sores (*σηπεδόνες*), probably belonged to book I, since they refer to a second book, presumably distinct from the one in which they are located:

*κολλυρίων δὲ διαφόρους συνθέσεις εὐρήσεις γεγραμμένας ἐν τῷ δευτέρῳ μου βιβλίῳ.*²⁶
You will find various compositions of eye-salves written out in my second book.

*ἔχεις δὲ πρὸς σηπεδόνας ἐν τῷ δευτέρῳ μου βιβλίῳ ἐν ταῖς σκευασίαις τῶν φαρμάκων συντάγματα.*²⁷

You have recipes for sores in my second book, among the preparations for drugs.

Two more-cross references, at the end of the excerpts on cysts (*περὶ μελικηρίδων*) and warts (*περὶ μυρμηκίων*), were probably located in book II, since they refer to the recipe collection simply as 'appended' or 'below':

*ἔχεις καὶ ἐμπλάστρου σκευασίαν πρὸς μελικηρίδας ὑποτεταγμένην ἐν τοῖς συντάγμασι τῶν φαρμάκων πρὸς τῷ τέλει τοῦ βιβλίου τούτου.*²⁸

You have a preparation for a poultice for cysts appended among the recipes for drugs at the end of this book.

*ἔχεις δὲ καὶ ἄλλα βοηθήματα πρὸς μυρμηκίας ὑπογεγραμμένα ἐν ταῖς σκευασίαις τῶν φαρμάκων.*²⁹

You have other remedies for warts written out below in the preparations for drugs.

The recipe collection is preserved in long series of excerpts in both M and B; it may have been classified into ointments and drenches.³⁰

²⁴ M274 = B60, *CHG* I p. 250.

²⁵ B97.7, *CHG* I p. 338.

²⁶ B12.6, *CHG* I p. 77.

²⁷ M273 = B28.3, *CHG* I p. 145.

²⁸ M909 = B77.1, *CHG* I p. 293.

²⁹ M343 = B82.8, *CHG* I p. 304.

³⁰ Cf. M924 = B130.68, *CHG* I p. 413: *Ἱεροκλέους ἐμπλάστρων σκευασία.*

HIEROCLES' PROOIMIA

In contrast to the other hippiatric writers, who prefaced their treatises (as far as one can tell) with the briefest of introductory remarks, Hierocles provided his treatise with two formal prooimia.³¹ These passages of *Kunstprosa*, composed in too-faithful accordance with the archaizing rules and tastes of the Second Sophistic, give virtually no information about his life and times, his place of origin, or the reason for his interest in veterinary medicine. Hierocles simply assembles a collection of clichés and rhetorical set-pieces, well-worn fragments of classical verse, proverbs, odd facts, and venerable tales. His profession, to which he refers in a roundabout way, provides some explanation for his *modus operandi* and style of writing:

Ἄλλ' εἰ καὶ κατακούειν ἡμᾶς ἑτέρων τὰ νῦν ἔχρῃν ἔν τε δικαστηρίοις παρέχειν χρεῖαν τοῖς δεομένοις καὶ σπουδὴν περὶ ταύτας ποιεῖσθαι τὰς διατριβάς, οὐκ ἀτιμαστέον γε ὁμῶς τὴν σὴν ἀξίωσιν, ἄριστε Βάσσε. ἡδὺν γὰρ ἀτεχνῶς φορτίον καὶ κάματος εὐκάματος, φησὶν Εὐριπίδης, ὑπὸ τινι φίλῳ προστάττοντι, καὶ μάλιστα σοί, δι' ὃν αἰροίμην ἄν, ἵνα παιδιᾷς τολμήσωμεν εἰπεῖν τρόπον, καὶ λειποτάκτης ἐπὶ καιροῦ τινος τῆς περὶ τοὺς δικάζοντας γενέσθαι φάλαγγος.³²

Well, although we ought now to be paying heed to others and rendering services to those in need in the lawcourts, and taking care of that sort of business, still, your request is not to be disdained, most excellent Bassus. For it is a 'delightful burden', so to speak, and a 'labour of love' (as Euripides says), that, under the command of a friend, and most particularly you, by whom I am won over, we dare to speak in the manner of playing, and become for some time a deserter from the ranks of the judges.

As a judge or pleader in the courts, Hierocles would have been trained in oratory—the connection between the disciplines of rhetoric and the law is illustrated by the use of the title *σχολαστικός* (*scholastikos*) to denote an orator, a teacher of rhetoric, or a jurist.³³ He would have been familiar with the convention of prefacing a technical treatise with a formal prooimion from the examples provided by legal texts; he also would have been familiar with the conventions which prescribed the use of literary rather than technical language for the preface.³⁴ And he would presumably have been accustomed to looking up and citing the opinions of authorities, as he does in the body of the treatise. The phrase he uses to describe his duties, *σπουδὴν περὶ ταύτας*

³¹ Pelagonius, too, prefaced his treatise with a short rhetorical prooimion.

³² B1.9, *CHG I* pp. 3–4.

³³ D. Simon, review of A. Claus, 'Ο σχολαστικός, *BZ* 59 (1966), 158–61.

³⁴ H. Hunger, *Prooimion* (Vienna, 1964), 26; Dagron, 'Aux origines de la civilisation byzantine: Langue de culture et langue d'état', 55.

ποιεῖσθαι τὰς διατριβάς, seems to echo a language of the chancery, already petrified in Hellenistic decrees.³⁵ His profession presupposes an urban milieu, which would also have provided the cultural background that the style of his book reflects.

There is no specific indication of the date at which Hierocles composed his treatise. Apart from Apsyrtus, the most recent authors to whom he refers are the Quintilii, contemporaries of Herodes Atticus (second century AD). We may note that he refers to Apsyrtus impersonally, as an authority rather than as an acquaintance. Hierocles' friend Bassus was long identified as the Cassianus Bassus, also a σχολαστικός, who compiled the *Geoponica*;³⁶ Hierocles was (incorrectly) considered the compiler of the *Hippiatrica*.³⁷ Cassianus Bassus is generally held to have lived in the sixth century,³⁸ though there is no firm evidence for this date. Hierocles calls Bassus 'not unacquainted with literature' (λόγων οὐκ ἀμελέτητος)—we may note the emphasis on λόγος rather than πείρα—and says to him furthermore that 'you happen to have inherited the works of your forebears on horse-keeping' (τὰ περὶ τὴν ἵπποτροφίαν ἐκ προγόνων παρεληφώς σπουδάσματα τυγχάνεις)—the works of Simon and of Xenophon in particular are mentioned—which seems to imply, if not that Bassus kept horses, at least that he was acquainted with the literature on them.³⁹ Rejecting the identification of Bassus with the compiler of the *Geoponica*, and pointing to Hierocles' avoidance of hiatus in the prefaces, Oder assigned the text to the fourth or fifth century AD—a date which, though not based upon particularly solid evidence, does not seem unlikely.⁴⁰

Hierocles' allusions to the pagan gods, the sacred games, and the monuments of Athens may be deliberately employed to create a classicizing illusion, reflecting antiquarian taste rather than contemporary reality, and are consequently of dubious value as evidence for his date or creed or place of origin.⁴¹

³⁵ For similar phrasing in inscriptions honouring judges, see. L. Robert, 'Note sur une inscription d'Erythrai', *CRAI* (1926), 169–71.

³⁶ N. Rigault, *IEPAKOΣOΦION, Rei accipitrariae scriptores nunc primum editi. Accessit KYNOΣOΦION, Liber de cura canum* (Paris, 1612), p. e iii; G. J. Voss, *De philosophia et philosophorum sectis libri II* (The Hague, 1658), p. 53; cf. P. Needham, *Γεωπονικά. Geoponicorum sive De re rustica libri xx ...* (Cambridge, 1704), p. xxxvii.

³⁷ Jean Massé, *L'art vétérinaire, ou grande maréchalerie* (Paris, 1563), p. 3^r; K. Krumbacher, *Geschichte der byzantinischen Literatur* (Munich, 1891), 67–8, revised in the 2nd edn. of that work (1897), 263. Hierocles' role in the transmission of the *Hippiatrica* is equated with that of Cassianus Bassus in the case of the *Geoponica* by Weitzmann, 'Macedonian Renaissance', 198.

³⁸ Oder, 'Beiträge III', 27 ff.; J. Teall, 'The Byzantine Agricultural Tradition', 40; Lemerle, *Le premier humanisme byzantin*, 291.

³⁹ B1.9, CHG I p. 4; on *hippotrophia* as a duty of curiales in Antioch, see P. Petit, *Libanius et la vie municipale à Antioche au IVe siècle* (Paris, 1955), 48.

⁴⁰ Oder, 'Beiträge III', 33–5; CHG II p. xii.

⁴¹ Cf. C. Mango, 'Byzantine Literature as a Distorting Mirror' (Oxford, 1973), repr. in *Byzantium and its Image* (London, 1984), study II.

It is nevertheless worth considering them. If the Olympic and Pythian games were indeed still being held at the time Hierocles wrote, his reference provides a *terminus ante quem* of AD 393, when they were abolished by Theodosius I. He swears by Zeus, but this may be a rhetorical affectation. He invokes the appropriate deities Poseidon Hippeios, Asclepius, and Cheiron, perhaps more out of a desire to show off knowledge of Greek mythology than out of any kind of belief, although the phrase 'Asclepius saviour of the human race' (ὁ τοῦ τῶν ἀνθρώπων γένους σωτὴρ Ἀσκληπιός) does not sound particularly Christian.⁴² References to the Eleusinion and the Olympieion at Athens need not imply any first-hand knowledge of that city, nor even that Hierocles was writing before the deconsecration of the temples;⁴³ for they are mentioned in the context of anecdotes set in the fifth century BC. But it is not unlikely that a cultivated lawyer of the fourth century AD would still be a pagan.⁴⁴ The pagan sorceresses Circe and Medea are invoked in a spell, but also, one suspects, under the influence of the conventions of magic, and of the Second Sophistic.

The name Hierocles is a pagan one, but continued to be used until fairly late: there are several instances in the correspondence of Libanius in the fourth century,⁴⁵ the Neoplatonic philosopher, and the collector of jokes in the fifth,⁴⁶ the author of the *Synecdemus* in the sixth.

The author of the veterinary manual was certainly well acquainted with the textbook rules of literary composition: in form, the prooimia follow a strictly conventional template. In his prefaces, Hierocles makes use of all the standard elements of rhetoric: myth, synkrisis, quotation, encomium.⁴⁷ He writes as though he were declaiming, beginning with ἀλλά,⁴⁸ using the verb λέγω, and

⁴² B1.9, *CHG* I p. 4; cf. Varro, *RR* I.4–6, Themistius, *θέσις εἰ γεωργητέον*, ed. H. Schenkl, vol. II (1971), 182–6 for similar wording of the invocation. Hierocles is almost certainly not referring here to the veterinary manual that went under Cheiron's name, but rather to Cheiron the inventor of herbal medicine, as he is depicted in the Vienna Dioscorides.

⁴³ On references to Athens in Atticizing writers, see E. L. Bowie, 'Greeks and their Past in the Second Sophistic', *Past and Present*, 46 (1970), 28 ff.; G. Anderson, *The Second Sophistic: A Cultural Phenomenon in the Roman Empire* (London, 1993), 119 ff. On the fate of the temples, see A. Frantz, 'From Paganism to Christianity in the Temples of Athens', *DOP* 19 (1965), 187–205.

⁴⁴ A. H. M. Jones, 'The Social Background of the Struggle between Paganism and Christianity', in A. Momigliano (ed.), *The Conflict between Paganism and Christianity in the Fourth Century* (Oxford, 1970), 19 ff.

⁴⁵ One might see a candidate in Fl. Antoninus Hierocles, a native of Cilicia, *consularis Syriae* in 348, governor of Arabia in 343/4, and an acquaintance of Libanius. From Libanius' letters it is known that this Hierocles was a barrister and a professor of rhetoric, who spent the end of his life in retirement on his estates. *PLRE* I. 431–2, O. Seeck, *Die Briefe des Libanus zeitlich geordnet* (Leipzig, 1906), 176–7.

⁴⁶ Even if it was compiled by someone else, the *Philogelos*, with its jokes at the expense of lawyers and *scholastikoi*—often at a loss when faced with a horse—would seem to belong to a similar milieu. *Philogelos*, ed. R. D. Dawe (Munich and Leipzig, 2000), e.g. nos. 3, 4, 9, 10.

⁴⁷ See e.g. Hermogenes, *Progymnasmata*, ed. H. Rabe (Leipzig, 1913), esp. pp. 14 ff.

⁴⁸ J. D. Denniston, *The Greek Particles*, 2nd edn. (repr. London, 1996), 20–1.

referring to his prooimion as a λόγος (contrasted at one point with ὑπόθεσις, the business of the treatise). He is not loth to use litotes, and the prooimion is full of alliteration and word-play.⁴⁹ He punctuates his sentences with ἀτεχνῶς and Atticizing particles: οἶμαι, μέντοι, γε ὁμως, οὐκουν, που,⁵⁰ and the rare γε μήν.⁵¹ He swears affectedly 'By Jove!' (νῆ Δία)!⁵² An effect of 'sweetness' (γλυκύτης) is achieved through the use of devices recommended by Hermogenes to create that style: mythological allusions, stories, exotic facts, the attribution of anthropomorphic characteristics to animals, and quotations of verse.⁵³ The body of the treatise, consisting as it does in a paraphrase into higher style, also has something of the character of a rhetorical exercise.

In the first prooimion Hierocles combines his dedication with the topos of modesty, explaining that his treatise is a response to Bassus' request. After quoting Euripides and Pindar in the course of presenting his apologies both for neglecting his business and for his boldness in writing, he states the subject of the book. An invocation to the appropriate gods follows.⁵⁴

φέρε οὖν ἐπειδὴ σοι τοῦτο δοκεῖ καὶ ἀσχολίας ὑπέρτερον, ἔφη που Πίνδαρος, ἐπόμενος τῷ προστάγματι λέγειν ἄρξωμαι, τίνα μὲν ἵπποις εἴωθεν ἐπυγίνεσθαι πάθη, τίνα δὲ ἐφ' ἐκάστοις αὐτῶν ἰάματα. κεκλήσθων δὲ ἡμῖν συμφορεῖς τοῦ λόγου τοῦδε Ποσειδῶν τε Ἵππειος καὶ ὁ τοῦ τῶν ἀνθρώπων γένος σωτὴρ Ἀσκληπιός, ὃ πάντως που καὶ ἵππων μέλει, εἰ δεῖ τι Χείρωνος τοῦ Κενταύρου καὶ τῶν ἐν Πηλῳ διατριβῶν ἀξίως μεμνήσθαι. σοὶ μὲν οὖν ἵππον φασὶν ἐς πεδίον παρακαλεῖν, εἴ τι δεῖ τὴν παροιμίαν ἀφ' Ἑστίας λαβεῖν, πρὸς τοῦδε τοῦ λόγου τὴν γραφὴν.

Come now, since this seems to you to be 'more important than my business' (as Pindar once said), I will, following your command, begin to speak: on one hand, about which diseases are wont to afflict horses, and, on the other, about the cures for each disease. Let Poseidon Hippios and the saviour of the human race Asclepius (who cares about horses too, of course) be called upon to aid in our discussion! It is likewise fitting to mention Cheiron the Centaur, and those who spent time in Pelion: to appeal to you in writing this treatise is like calling 'a horse into a meadow', if one may take the proverb in its original sense.

⁴⁹ σπουδῇ, σπουδάσματα, περισπούδαστος, σπουδάσματος, σπουδαῖον, σπουδάσαντα. οὐκ ἀτιμαστέον, οὐκ ἀμελέτητος, οὐχ ἥκιστα, οὐκ ἀσυντελές; εὐρομέν τινι τῶν ἱππέων ἵππον ὑπερρετηκότα.

⁵⁰ See Denniston, *The Greek Particles*. On ἀτεχνῶς, see W. Schmidt, *Der Atticismus* (Stuttgart, 1887–96), I. 111 (used by Dio Chrysostom); II. 88 (Aristeides); III. 105 (Aelian); IV. 139 (Philostratus the younger).

⁵¹ Xenophon is the only classical writer to use it, but he does so with abandon, especially in his minor works; cf. Denniston, p. 347: 'a remarkable example of a particular author's predilection for a particular particle'. Popular with the Atticists, especially Aelian, cf. Schmid, *Der Atticismus*, III.

⁵² In the manner of Demosthenes, *CHG* I p. 5.

⁵³ *Περὶ Ἰδεῶν* B', 4, ed. Rabe pp. 330 ff.

⁵⁴ B1.9, *CHG* I p. 4; cf. e.g. the prefaces to the *Rhetorica ad Herennium* or the *Institutes* of Quintilian.

He then further defines the scope of the work by *paraleipsis*, with allusion to the learning of his friend, and to illustrious writers on the subject from the Classical past. Hierocles declines to expound on the subjects with which, he says, his friend Bassus is already familiar: the nature of the horse, breeding, feeding, and upkeep. This list of subjects for discussion *apropos* of horses may have been drawn from Aristophanes of Byzantium or one of the agricultural manuals that Hierocles cites.⁵⁵ Another topic that will not be covered is schooling: Hierocles' phrasing suggests that he is familiar with Xenophon—though this is a 'first page' quotation.⁵⁶ Hierocles also refers to Simon's work in a way that suggests that he simply knows of it through Xenophon:

Xenophon

συνέγραψε μὲν οὖν καὶ Σίμων περὶ ἵππικῆς,
ὃς καὶ τὸν κατὰ τὸ Ἐλευσίνιον Ἀθήνησιν
ἵππον χαλκοῦν ἀνέθηκε καὶ ἐν τῷ βάθρῳ τὰ
ἐαυτοῦ ἔργα ἐξετύπωσεν⁵⁷

Simon, too, has written on horsemanship,
he who dedicated the bronze horse at the
Eleusinion in Athens and had his deeds
depicted in relief on the base.

Hierocles

τὰ τε Σίμωνος ἀκούεις τοῦ παλαιοῦ τοὺς τῆς
ἵππασίας αὐτοῦ τρόπους ἐν τῷ παρ'
Ἀθηναίοις Ἐλευσινίῳ χαράξαντος καὶ
σημήναντος ἐν τοῖς σχήμασι⁵⁸

You have heard of the works of the vener-
able Simon, who inscribed and explained
his ways of horsemanship in the figures at
the Eleusinion of the Athenians.

It would have been more interesting, of course, had Hierocles discussed his principal source, the treatise of Apsyrtus, or the other veterinary works he used; but mention of these more recent, technical authors would not have been appropriate in a piece of classicizing rhetoric. After mentioning the work of Simon and Xenophon, he seems to refer to the title of his own treatise in the phrase *τὰ περὶ τῆς τῶν ἵππων θεραπέας καιριώτατα*.⁵⁹ A *synkrisis* of human and veterinary medicine includes a smattering of medical theory and

⁵⁵ Cf. Aristophanes in the *Bestiary* of Constantine VII, ed. Lambros, II.1, also Varro, *RR* II.1.11–27.

⁵⁶ Apsyrtus mentions Simon and Xenophon (B115.1, *CHG* I p. 372), but to Hierocles' credit he seems to be quoting directly rather than via Aps.: ὅπως ἂν τις γνωματεύσειε τὸν ἄριστον ἵππον καὶ παρασκευάσειε μὴ δυσάγων εἶναι μηδὲ δύσστομον καὶ δυσγάργαλον, ἀλλὰ ψάλιον ἐτοίμως δέξασθαι, καὶ τὸν ἀναβάτην μὴ χαλεπῶς ἐνεγκεῖν, καὶ ταῖς τῶν ἐποχουμένων ὁρμαῖς ὑπακούειν πρὸς ἅπαν, ὃ βούλονται. Parallels in Xenophon: choosing a horse: I–III; *χαλεπότητα* πρὸς ἀνθρώπους . . . *δυσγάργαλις* . . . *τῶν χαλινώσεων καὶ ἀναβάσεων ἀποκωλύσεις* III.10; *ὁρμαί*, e.g. *ποπυς* IX.10.

⁵⁷ *De re equ.* I.1

⁵⁸ B1.11, *CHG* I p. 4.

⁵⁹ *Ἱεροκλέους περὶ ἵππων θεραπέας* is the lemma of the second prooimion in B, and (slightly distorted as *ἵππων θεραπέας*) the title of the second book of the reconstitution of Hierocles in R. The term *καιριώτατα* appears in the preface of Oribasius (ed. Raeder, I. 1, p. 4.).

of ethnography, both human and equine. Hierocles explains that veterinary science is not as highly developed as human medicine, but his superficial comparison of the two disciplines does not provide us with any insight about their relation to one another. He refers to doctors with dramatic hyperbaton and a cliché as ‘those who have with great precision gathered treatments for the bodies of humans, the children of doctors’ (οἱ μὲν οὖν τὰς ἐπὶ τοῖς τῶν ἀνθρώπων σώμασι θεραπείας ἀκριβέστερον συνταξάμενοι παῖδες ἰατρῶν), and similarly uses the circumlocution ‘those who pay attention to the healing of horses’ (οἱ δὲ περὶ τὴν τῶν ἵππων ἴασιν εἰσενεγκάμενοι σπουδῇ) instead of the technical term ἱππιατροί.⁶⁰ Doctors who treat humans adjust their therapies to compensate for the varying proportions of humours in, for example, Scythians or Ethiopians. But the veterinary art, explains Hierocles, is less refined, and treatments are not adjusted according to the patient’s race. This is an excuse for Hierocles to name some breeds of horses: Arcadian, Cyrenaic, Iberian, Cappadocian, Thessalian, Moorish, and Nesaian. These names appear to have been selected from the longer catalogue transmitted in the Bestiary of Constantine VII under Aelian’s name, but attributed by Haupt to Timothy of Gaza.⁶¹ Timothy is not an original writer: the catalogue of breeds, which appears earlier in the *Cynegetica* of ps.-Oppian, must have circulated in florilegia or reference-books, as did for example the list of animal noises.⁶² The same catalogue of horse-breeds, but in alphabetical order, appears in the C recension of the *Hippiatrica*.⁶³ We may note that the semi-legendary Persians of Nisa, to whom Hierocles gives special emphasis (ὁ βασιλεὶ τῶν Περσῶν περισπουδέστατος ὁ Νησαῖος) were a favourite topos.⁶⁴ The first prooimion ends with a few facts about the lifespan of the horse and reference to famous instances of long-lived animals.⁶⁵ Hierocles concludes

⁶⁰ B1.12, *CHG* I pp. 4–5

⁶¹ Lambros, II. 588–609.

⁶² Themistius mentions five breeds in *Or.* 27—from memory, or from a similar source? *Themistii orationes quae supersunt*, ed. H. Schenkl and G. Downey (Leipzig, 1965), vol. 2, p. 158. On the animal noises, see D. T. Benediktson, ‘Polemios Silvius’ “Voces Variarum Animantium” and Related Catalogues of Animal Sounds’, *Mnemosyne*, 53 (2000), 71–9 (with bibliography).

⁶³ *CHG* II pp. 121–4.

⁶⁴ B1.12, *CHG* I p. 5. The breed is first mentioned by Herodotus, 3.106 and 7.40; later by Philostratus, *Vita Apollonii* I.31; Phlegon of Tralles 3.11; Stephanus Byzantius, s.v. *Νησαῖον πεδίον*; *Souda*, s.v. *ἵππος Νησαῖος* Adler, I 578. Still proverbial in the 10th c.: Theodore of Cyzicus includes a *Νησαίου ἵππος* among a list of legendary treasures in a letter addressed to Constantine VII; J. Darrouzès, *Epistoliers byzantins du Xe siècle* (Paris, 1960), VIII.6, line 8.

⁶⁵ B1.13–14, *CHG* I pp. 5–6. Similar rhetorical devices in, e.g. Agathias’ prooimion to his *History*: a friend exhorted him to write, a protest that his usual occupation is different, quotations from the classics, ethnography, mention of the sacred games, definition of the subject at hand (history) through synkrisis with a related discipline (political science), reference to predecessors in the same field. R. Keydell (ed.), *Agathiae Myrinaei historiarum libri quinque* (Berlin, 1967), proem. 1–13.

with the explanation that the treatise will consist of descriptions of symptoms and prescriptions for treatment, and a reference to the clichéd observation that animals are unable to describe their ailments in words.⁶⁶

The second prooimion begins with a maxim from Hesiod and a somewhat incongruous characterization of the second volume of the veterinary manual as an antistrophe in the manner of the lyric poets (*ἀντίστροφον ἀτεχνῶς τινα κατὰ τοὺς τῶν μελῶν ποιητὰς ἀποτείνω βιβλίον ταυτηνὶ δευτέραν*). Another reference to the title of the treatise may be embedded in the phrase ‘treatise on the healing of horses’ (*τὸ περὶ τῆς ἵππων θεραπείας σύγγραμμα*). An encomium of the horse is followed with a hodgepodge of anecdotes illustrating the physical and moral characteristics of the animal.⁶⁷

τοῦτο γὰρ, οἶμαι, κάλλιστον καὶ πανταχῇ περισπούδαστον ζῶον ἀνθρώποις ἵππος ἀν εἰκότως εἶναι νομίζοιτο. ὁδοιποροῦντι μὲν ἐπελαφρύνων τῷ δεσπότῃ τοὺς πόνους, πομπεύοντι δὲ σεμνοτέραν ἀποφαίνων καὶ περιβλεπτοτέραν τὴν πομπήν, ἔν γε μὴν τοῖς κατὰ πόλεμον ἀγῶσιν συγκινδυνεύων καὶ μετέχων τῶν ἔργων, ὡς ἐλεῖν μὲν τοὺς φεύγοντας τῶν πολέμιων, διασώσασθαι δὲ τῶν φιλίων τοὺς σωτηρίας δεομένους. διόπερ εἰκότως πρὸς μὲν ἀνθρώπων οὕτως τετίμηται, ὡς Ὀλυμπιάσι τε καὶ Πυθοῖ καὶ πανταχοῦ τῶν ἀγῶνων ἵπποις ὥσπερ ἀνδράσι, τάχους ἀμίλλης προκείσθαι γέρα. παρὰ δὲ τοῖς θεοῖς τοσαύτης ἡξίωται σπουδῆς, ὡς μὴ μόνον ὑποζεύγνυσθαι τοῖς θεοῖς αὐτῶν ἄρμασιν, ἀλλ’ ἤδη καὶ τῶν ἄστρων κατ’ οὐρανὸν συντετάχθαι χορῶ.

οὐκ ἀσυντελὲς μὲν οὖν ἴσως ἂν τινι δόξειεν εἶναι πρὸς τὴν τοῦ συγγράμματος πρόθεσιν τὸ καὶ τῶν ὑπὸ τοῦ φιλοσόφου Ἀριστοτέλους ἱστορηθέντων μνήμην ἐν μέρει ποιήσασθαι, ὡς οὐ στέαρ ἵππος ἀλλὰ πιμελὴν ἔχει, πνεύμονά τε τρίλοβον οὐκ ἔχοντα προσπεφυκυῖαν τὴν χολήν, κείσθαι γὰρ αὐτὴν παρὰ τὸ ἔντερον πολλήν καὶ δυσώδη, καὶ ἔτι πρὸς τοῦτους ὡς ἵππον καὶ ἡμίονον ἐστίν, ὧν ὁστέον εὐρέθῃ ἐν τῇ καρδίᾳ. καίτοι πολλοὶς τὰ τοιαῦτα ἡγνοήθη, ὥσπερ Μίκωνι τῷ παλαιῷ, δὲ ᾧετο ἵππον καὶ τὸ κάτω βλέφαρον ἔχειν τρίχας, ἃς καλοῦσιν Ἑλληνες βλεφαρίδας. καθάπτεται γοῦν αὐτοῦ Σίμων τὴν ἀγνοίαν ταύτην αἰτιώμενος.

The horse truly ought, I believe, to be considered the finest animal and in every way the most desirable to mankind. He lightens the labours of his master while on the road; on parade he makes the procession more solemn and more splendid; while in contests of war he shares in the danger and takes part in the work, showing mercy to the fleeing enemy, and preserving those of the allies who seek safety. Therefore he is fittingly honoured by mankind, so that at the Olympic and Pythian games and all the games everywhere, there is glory to be won in contests of speed for horses just as for men. And by the gods the horse is so esteemed that not only are horses yoked to the divine chariots, but they are even arrayed in the heavens, amidst the chorus of stars.

⁶⁶ Cf. *Geop.* XVII.14; *Vie et Miracles de Sainte Thècle*, ed. G. Dagron (Brussels, 1978), no. 36 p. 386.

⁶⁷ B59, *CHG* I pp. 248–50.

It might not be considered out of place to mention as an introduction to the treatise some of the things that have been recounted by the philosopher Aristotle, such as: the horse does not have suet, but soft fat; and its three-lobed lung is not attached to the gall-bladder, for the latter (abundant and malodorous) is located by the gut; furthermore, a bone has been found in the heart of horses and mules. Indeed, these things are unknown to many people, like old Micon, who thought that the horse's lower eyelid had on it those hairs which the Greeks call 'eyelashes'. And Simon rebuked him, criticizing such ignorance.

Encomia of animals were standard rhetorical *progymnasmata*;⁶⁸ indeed, Hierocles' description of the horse as an ornament to parades and a companion in war are echoed in a fragmentary text labelled *ἐγκώμιον ἵππου* preserved on a papyrus of the second/third century AD, and identified by its editor as an autograph exercise.⁶⁹ Hermogenes, in his description of the encomium, writes that

ἐγκώμιόν ἐστιν ἐκθεσις τῶν προσόντων ἀγαθῶν . . . ἐγκωμιάζομεν δὲ καὶ πράγματα οἶον δικαιοσύνην καὶ ἄλογα ζῶα οἶον ἵππον . . .

παραπλησίως καὶ τὰ ἄλογα ζῶα κατὰ τὸ ἐγχωροῦν. καὶ γὰρ ἀπὸ τοῦ τόπου, ἐν ᾧ γίνεται, ἐγκωμιάσεις. εἰς δὲ τὴν τοῦ γένους χώραν ἐρεῖς, τίνι θεῶν ἀνάκειται, οἶον ἢ γλαυῆς τῇ Ἀθηνᾷ, ὃ ἵππος τῷ Ποσειδῶνι. ὁμοίως δὲ ἐρεῖς, πῶς τρέφεται, ποταπὸν τὴν ψυχὴν, ποταπὸν τὸ σῶμα, τίνα ἔργα ἔχει, ποῦ χρήσιμα, πόσος ὁ χρόνος τοῦ βίου . . .⁷⁰

Encomium is an exposition of virtuous attributes . . . We praise with encomia things such as justice and unreasoning animals such as the horse . . .

And unreasoning animals similarly, as far as possible. And you will praise them from the places in which they live. And you will say with respect to the species, to which gods it is peculiar, such as the owl to Athena, or the horse to Poseidon. Similarly you will say how it is nourished, what its spirit is like, what its body is like, what work it performs, where it is useful, what is the span of its life . . .

Indeed, in the two prooimia, which may be considered as one piece of writing, Hierocles covers all the topics prescribed above by Hermogenes.

Hierocles' references to classical authors impressed the editors of the Teubner text of the *Hippiatrica*, who commended Hierocles for his

⁶⁸ Cf. the *topoi* in the encomium of the ox in Columella VI, preface 6–7: references to ancient history and customs, to Athens and Attica and the association of the ox with the gods, the constellation that bears its name. On the constellation Hippios, see e.g. Aratus 205–24 and the comments of Kidd, *op. cit.* pp. 258–9.

⁶⁹ P. Oxy. LXVIII. 4647. The text is fragmentary, but the similarity to Hierocles is nevertheless clear in *πομπὰς κοσμί[.] καὶ πανηγ[ύ]ρεις ἵππος δ[ε] ἀνθρώποις καὶ συστρατεύει καὶ συνοπλίζετα[ι]*, (fr. 2, 11. 3–6). I thank Prof. G. L. Huxley for bringing this text to my attention.

⁷⁰ *Progymnasmata* 7, ed. Rabe, pp. 14–17.

‘ansehnliche Belesenheit’.⁷¹ But the literary culture displayed in Hierocles’ work represents no profound knowledge of the classics, but rather the ‘curiosité de l’érudit antique’ characterized by Marrou as ‘une collection de fiches ... l’esprit qui l’anime est celui d’un collectionneur, non d’un savant’.⁷² His allusions attest only to a conventional *paideia*, and some research in the sort of florilegia beloved of writers of the Second Sophistic. He admits himself that he has quarried titbits of animal lore from the *Epitome* by Aristophanes of Byzantium of Aristotle’s biological treatises. His quotations—even if he had actually read the texts from which they are drawn—figure in the collections of the paroemiographers. And the old stories he repeats are told by many other writers; they too may be drawn from a literary miscellany.

The poets whom Hierocles cites, Euripides, Pindar, and Hesiod, are among the most commonly quoted classical authors in Late Antiquity.⁷³ And the verses that he quotes are quoted by many others too. This phenomenon has been identified in better writers than Hierocles: Lucian’s quotations, for example, tend to be first lines, endings, double-borrowings via other authors, or simply oft-repeated ‘tags’.⁷⁴ Even though Hierocles’ allusions are to lines his readers may have recognized, he names the poets, which is not particularly subtle, unless he is presenting the verses as *γνώμαι*. The quotations all fall into the category of ‘appropriate for beginnings’. He does, however, intentionally misquote (*κατὰ παραδίαν*), weaving verses into his sentences—which is more sophisticated than verbatim citation⁷⁵—as in his adaptation of Euripides, *Bacchae* 66.⁷⁶ Following the pattern observed in Lucian, the words quoted

⁷¹ Oder, ‘Beiträge III’, 34; Oder–Hoppe, preface to *CHG* II, p. xii: ‘iurisconsultum liberalibus litteris non mediocriter tinctum’.

⁷² H.-I. Marrou, *Saint Augustin et la fin de la culture antique* (Paris, 1958), 150 ff.

⁷³ N. Zeegers-Vander Vorst, *Les Citations des poètes grecs chez les apologistes grecs du IIe siècle* (Louvain, 1972), 31–2; on sources direct and indirect, p. 45.

⁷⁴ G. Anderson, ‘Lucian’s Classics: Some Short Cuts to Culture’, *Bulletin of the Institute for Classical Studies*, 23 (1976), 59–68.

⁷⁵ On περιπλοκάς τῶν ποιημάτων ἐν λόγῳ, see Hermogenes, *περὶ γλυκύτητος*, ed. Rabe, pp. 336 ff.; also *περὶ χρήσεως ἐπῶν ἐν πεζῷ λόγῳ* (= *Περὶ μεθόδου δεινότητος* 30), pp. 447–8. Also R. Seippel, *De veterum scriptorum ratione auctores laudandi*, diss. (Greifswald, 1903).

⁷⁶ Ἀσίας ἀπὸ γᾶς
 ἱερὸν Τμῶλον ἀμείψασα θοάξω
 Βρομίῳ πόνον ἥδυν,
 κάματόν τ’ εὐκάματον, Βάκ-
 χιον εὐαζομένα

ed. E. C. Kopff (Leipzig, 1982). See above, p. 214, and cf. L. Radermacher, ‘Euripides Bacchen 65ff’, *Rh. Mus.* 61 (1906), 629–30; for a light-hearted conjecture (rejected on account of the presence of the diminutive *φορτίον*) that Hierocles’ version is the original: ‘Es wäre gar zu hübsch, wenn wir dem Apsyrtus [*sic*] ein Verdienst um die Heilung einer Euripidesstelle zuschreiben dürften ...’.

by Hierocles are from the first choral ode of the play; Aelian and Plutarch cite the phrase as well.⁷⁷ Hierocles also quotes Pindar's *Isthmian* I.2, a near-first line. 'Ασχολίας ὑπέρτερον, quoted by Plato, Plutarch, and others, was obviously a well-known phrase that circulated independently of its context.⁷⁸

He begins the preface to his second book with a reference to the proverb derived from Hesiod, *Op.* 40, πλέον ἤμισυ παντός. Here Hierocles treats the verse as a gnome, giving an interpretation of its implication:

Ἡσίοδος μὲν ἤμισυ τοῦ παντός φησιν εἶναι τὴν ἀρχήν, προτρέπων, οἶμαι, καὶ διὰ τούτου τῶν ἀρίστων ἐπιτηδευμάτων ἀπτεσθαι, ὥς τοῖς γε ἀρξαμένοις ἤδη προηνυσμένου τοῦ σπουδάσματος.⁷⁹

Hesiod says 'well begun is half done', in this way encouraging one, I believe, to undertake the most noble endeavours, as though the task is already accomplished by those who have made a start.

In his apostrophe to Cheiron, Hierocles strings together two proverbial phrases, one of which alludes to the centaur's appearance:

σοὶ μὲν οὖν ἵππον φασὶν ἐς πεδίον παρακαλεῖν, εἴ τι δεῖ τὴν παροιμίαν ἀφ' Ἑστίας λαβεῖν, πρὸς τοῦδε τοῦ λόγου τὴν γραφήν.

To appeal to you in writing this treatise is like calling a horse into a meadow, if one may take the proverb in its original sense.

The reference to a horse in a meadow ('like a fish to water') was already proverbial, in a slightly different form, in Plato's time. The form that Hierocles quotes continued to be used in the tenth century and in the Renaissance; it was considered to be derived from *Iliad* 5.222.⁸⁰ Ἀφ' Ἑστίας is also a

⁷⁷ Ael. NA III.13; several times in Plutarch, *Moralia* 467d, 758b, 794b: see W. C. Helmbold and E. N. O'Neil, *Plutarch's Quotations* (London, 1959), 30. Also in Michael Apostolius, *Corpus Paroemiographorum Graecorum*, V. 35.

⁷⁸ Μᾶτερ ἐμά, τὸ τέον, χρύσασι θήβα,
πράγμα καὶ ἀσχολίας ὑπέρτερον
θήσσομαι.

ed. H. Maehler (Leipzig, 1987). See above, p. 217, and cf. Plato, *Phaed.* 227b, Macarius IV.98, *CPG* vol. II. p. 177, where it is noted that *usi sunt permulti*. In Plutarch, *Moralia* 575d; cf. Helmbold-O'Neil, *Plutarch's Quotations*, 55. Continued use in the medieval period e.g. in the preface to codex K of the Synaxarium of Constantinople, *Synaxarium ecclesiae Constantinopolitanae, Propylaeum ad AASS Novembris*, ed. H. Delehaye (Brussels, 1902), p. xix.

⁷⁹ B59.2, *CHG* I, p. 248. Diogenianus II. 97 (*CPG* I p. 213); Macarius II. 47 (*CPG* II p. 148), Apostolius III. 97 (*CPG* II p. 309); *Souda*, s.v. (Adler A 4097) in Plutarch, *Moralia* 36a, Helmbold-O'Neil, p. 37.

⁸⁰ B1.9, *CHG* I, p. 4; *Souda*, s.v. (Adler, I 574); Diogenianus I. 65 (*CPG* I p. 191). *ἵππας εἰς πεδίον* in Plato, *Theaet.* 183d; cf. Diogenianus II. 96, *CPG* II p. 35. Used by Leo of Synnada: J. Darrouzès, *Épistoliers byzantins du Xe siècle* III. 17, III. 33; Michael Apostolius IX. 11, IX. 13 (*CPG* II p. 464); Gregory of Cyprus L II. 33 (*CPG* II p. 73), M III. 78 (*CPG* II p. 118). Comments of Eustathius on *Il.* 5.222, 541. 19–31 ed. M. van der Valk, vol. II (Leyden, 1976), 61. *Equum Lydium in campum deduxisti* in the publisher's preface to vol. 5 of the Aldine Galen (1525). Also used on the title-page of Lorenzo Rusio's *Hippiatria* (1531).

proverb, meaning ‘from the beginning’ since sacrifices were made first to Hestia, most senior of the Olympians.⁸¹

For facts about the anatomy and lifespan of the horse, Hierocles used the *Epitome* by Aristophanes of Byzantium of Aristotle’s biological works. Aristophanes’ text survives only in the form of excerpts in a Byzantine compilation, the *Bestiary of Constantine VIII*;⁸² but it was evidently a very popular handbook in Late Antiquity, favoured by rhetorical writers as a source of animal lore. Aelian used it extensively for his *Natura animalium*, as almost certainly did Basil of Caesarea for his *Homilies on the Hexaemeron*; while Artemidorus and John Lydus quote Aristophanes by name.⁸³ Hierocles makes no secret of the fact that he has Aristotle’s information at second hand, but cites the *Epitome* in full, naming both the grammarian and the philosopher as authorities:

Ἀριστοφάνης οὖν ὁ Βυζάντιος τὰ περὶ φύσεως ζώων ἐπιτεμόμενος ἐκ τῶν Ἀριστοτέλους τοῦ φιλοσόφου φησὶν ἔτη ζῆν δύνασθαι ἵππον πεντήκοντα καὶ πρὸς.⁸⁴

Aristophanes of Byzantium, who made an epitome of [texts] on the nature of animals from the works of Aristotle the philosopher, says that the horse can live for fifty years and more.

After this initial double citation, Hierocles cites Aristophanes or Aristotle alone. Much of the information is presented in Hierocles’ prefaces as *paradoxa*: horses can live to the age of fifty, mares can be bred until thirty, the horse has fat rather than suet, horses and mules have a bone in their heart. The description of a three-lobed lung somehow associated with the gall-bladder is not in the text of Aristophanes, and (if it is not the result of scribal error) speaks for a certain lack of medical understanding on Hierocles’ part.⁸⁵

⁸¹ Apostolius IV. 61 (CPG II p. 321), Gregory of Cyprus L I. 63 (CPG II p. 62); Macarius II. 67 (CPG II p. 149); Zenobius I. 40, CPG I p. 14; *Souda* s.v. (Adler, *A* 4590); Plato, *Cratylus* 401b–d and *Euthyphro* 3a.

⁸² Paris. suppl. gr. 495 (containing the first part of the compilation, removed from Athos by Mynas Minoides) and Dionysiou 180 (second part of the compilation), ed. S. Lambros, *Excerptorum Constantini de natura animalium libri duo* (Supplementum Aristotelicum, I.1; Berlin 1885). There is one papyrus fragment containing part of the chapter on the dog: A. Roselli, ‘Un frammento dell’ *Epitome* περὶ ζώων di Aristofane di Bizansio. P. Lit. Lond. 164’, *ZPE* 33 (1979), 13–16.

⁸³ Cited by name by Hierocles; Lydus, *De Magistr.* 3.63; and Artemidorus 2.14: *Aristophanis Byzantii fragmenta*, W. J. Slater ed. (Berlin and New York, 1986), 141–2. Used by Aelian: E. L. De Stefani, ‘Per l’*Epitome* Aristotelis de animalibus di Aristofane de Bizanzio’, *Studi italiani di filologia classica*, 12 (1909), 421 ff. Possibly used also by Basil of Caesarea and Timothy of Gaza: E. Amand de Mendieta, ‘Les neuf homélies de Basile de Césarée sur l’hexaéméron’, *Byzantion*, 48 (1978), 357 ff.; M. Wellmann, ‘Timotheos von Gaza’, *Hermes*, 62 (1927), 180. Aristophanes may be the source for Philostratus, *Vita Apollonii* II.11–16.

⁸⁴ B1.13, *CHG* I p. 5. On double citations, see Stemplinger, *Das Plagiat*, 182.

⁸⁵ B1.13, *CHG* I pp. 5–6; B59.6, p. 249, Aristoph. Byz. in Lambros II.54–584. Lifespan among other *paradoxa* in Aelian, *HA* XV.25.

The tale of the stallion who committed suicide after being deceived into incestuous relations with his dam is in Aristophanes of Byzantium (from Aristotle), but also in Varro, Pliny, Aelian, ps.-Oppian, and Timothy of Gaza.⁸⁶ Morals drawn from the animal world were a favourite commonplace of the Second Sophistic: Hierocles repeats the story as testimony, he tells us, to the 'sagacity and self-control' (σύνεσις καὶ σωφροσύνη) of the horse.⁸⁷

Hierocles repeats another story (which he attributes to Tarantinus)⁸⁸ as an illustration of the advanced age which a horse may attain: an eighty-year-old mule, brought to work by the Athenians who were building 'the temple of Zeus near the Enneakrounos' (τὸν τοῦ Διὸς νεῶν κατασκευάζοντας Ἀθηναίους Ἐννεακρούνου πηλσίον), that is, the Olympieion, was appointed leader of the teams and permitted to feed at will from the stalls of the grain-sellers. This anecdote was adduced by Leake⁸⁹ as evidence for the location of the Peisistratid fountain-house, evidence rejected by Judeich, who points out that the anecdote is related by other ancient writers in the context of the construction of the Parthenon.⁹⁰ Nevertheless, although Hierocles has garbled the story, in the location of the Enneakrounos he agrees with Thucydides, who locates the temple near the Ilissos river; and it is their testimony, rather than that of Pausanias (who places the fountain-house north of the Acropolis), that is now accepted.⁹¹

Another story is included in Hierocles' list of the anatomical peculiarities of the horse. Most people are ignorant, he says, of these peculiarities: even the great painter Micon (whose work was displayed in the Painted Stoa) was criticized by Simon (that is, the author of the work on horsemanship) for depicting a horse with lashes on its lower eyelids. In relating this anecdote

⁸⁶ B59.7, CHG I pp. 249–50. Aristotle, HA VIII (IX) 631a; Timothy of Gaza 32.9; Antigonus of Carystus, *Paradoxa*, ed. Keller (Leipzig, 1877), 54 p. 17; Varro, RR II.7.9; Pliny, NH VIII.156; Aelian, NA IV.7; ps.-Oppian, *Cyneg.* I. 236–69; Timothy of Gaza 27.9. The story appears twice in the Bestiary of Constantine VII, ed. Lambros, II.581 and 614 (from Aristophanes of Byzantium and Aelian respectively). The same story is told of a camel by Aelian, NA III. 47=Bestiary II. 465; also in *Geop.* XVI.22 (Didymus).

⁸⁷ Anderson, *The Second Sophistic*, 185–8; for the other standard examples of the ant, the bee, the spider, and the swallow, see S. O. Dickerman, 'Some Stock Examples of Animal Intelligence in Greek Psychology', *Transactions of the American Philological Association*, 42 (1911), 123–30; also cf. R. Sorabji, *Animal Minds and Human Morals: The Origins of the Western Debate* (London, 1993).

⁸⁸ B1.13, CHG I pp. 5–6. Tarantinus is cited in the preface to the *Geoponica*, and by Photius as one of the sources of the agricultural compilation of Anatolius.

⁸⁹ W. M. Leake, *The Topography of Athens* (London, 1821), 128; Hierocles is cited by name.

⁹⁰ W. Judeich, *Topographie von Athen* (Munich, 1931), 196–7, n. 1. Story of mule: Aristotle, HA VI 577b–578a; Pliny, NH VIII.175; Aelian, NA VI.49; Plutarch, *De sollert. anim.* 970a; Timothy of Gaza 30.2.

⁹¹ J. Camp, *The Archaeology of Athens* (New Haven and London, 2001), 36. The passage from Hierocles is included in R. W. Wycheley, *The Athenian Agora, III: Testimonia* (Princeton, 1957), no. 443.

about the fifth century BC, Hierocles betrays his Roman point of view (or that of his source) by the phrase 'which the Greeks call eyelashes' (*ἃς καλοῦσιν Ἕλληνες βλεφαρίδας*).⁹² He may have used a compilation along the lines of the *Onomasticon* of Pollux, in which the tale appears under the heading of 'parts of the eye' (*μέρη ὀφθαλμῶν*) rather than in the section on horses. The tale is told in Aelian as well.⁹³

Is it possible to identify any one of these authors as Hierocles' source? Hierocles' retellings of the stories are slightly different from the ones in Aelian and Timothy: Whereas Hierocles tells the story as an illustration of the longevity of equids, Aelian emphasizes the 'diligence and eagerness to work' (*φιλόπονον καὶ ἐθελουργόν*) of the mule, comparing it to an experienced craftsman and to a retired athlete fed at state expense at the Prytaneion. Hierocles probably found the stories in another miscellany.⁹⁴

All of the elements out of which Hierocles' prefaces are constructed are also used by other Atticizing writers: Aelian, Plutarch, ps.-Oppian, Timothy of Gaza.⁹⁵ Although none of these writers seems to be identifiable as Hierocles' immediate source, they nevertheless provide the literary context to which his prooimia belong. Some stories may have been drawn from florilegia along the line of Pamphilus' work as reconstructed by Wellmann, or the Stoic text postulated by Dickerman as the ultimate source of references in many authors to the moral qualities of the bee, the spider, the swallow, and the ant;⁹⁶ however, it seems that these quotations and stories were simply part of common literary culture in Late Antiquity.⁹⁷

THE BODY OF THE TREATISE AND ITS SOURCES

Hierocles uses a different set of sources for the prooimia and for the body of his treatise. He seems only to have used written sources: if Hierocles himself had any experience in the stables, it is well concealed.

⁹² B59.6, *CHG* I p. 249.

⁹³ Pollux II. 69; Aelian, *NA* IV.50=Bestiary, II. 617 says that the story was told both of Micon and of Apelles.

⁹⁴ On handbooks as sources of material found in many authors, see Stemplinger, *Das Plagiat*, 222; on the eyelash anecdote, see M. Wellmann, 'Pamphilos', *Hermes*, 51 (1916), 49.

⁹⁵ Especially Aelian (the same quotations from Euripides and Hesiod, the stories of Micon, of the mule and the stallion) and Timothy (references to the bone in the heart, lifespan, breeds; the stories of the mule and the stallion); Pliny also tells the two stories.

⁹⁶ Dickerman, 'Some Stock Examples of Animal Intelligence', 128–30.

⁹⁷ On similarities between Oppian and Aelian, and the difficulty of ascertaining their sources, see R. Keydell, 'Oppians Gedicht von der Fischerei und Aelians Tiergeschichte', *Hermes*, 72 (1937), 411–34.

The principal source of Hierocles' treatise is the letter collection of Apsyr-tus. Hierocles also names sources which are otherwise unknown: Hieronymus the Libyan,⁹⁸ Stratonicus,⁹⁹ Cleomenes the Libyan,¹⁰⁰ and Gregorius.¹⁰¹ One recipe is attributed to Hippasius of Elis.¹⁰² Tarantinus is cited once again in the body of the text.¹⁰³ Although Theomnestus is not named, four excerpts attributed to Hierocles are very close to passages in Theomnestus. One is inclined to attribute this similarity to shared dependence on Apsyrtus or another source, although there are echoes of phrases typical of Theomnestus in Hierocles' text.¹⁰⁴

When Hierocles presents the opinions of Apsyrtus and these other authorities, he scrupulously gives them credit in a manner reminiscent of citations in legal literature. One may draw a parallel between the verbs he uses when citing others and those used by the Latin jurists: *δοκεῖ* = placet; *δοκιμάζει/ἀποδοκιμάζει* = probat/ improbat, *φησί* = ait.¹⁰⁵ This is also the vocabulary of 'doxography', used to report the theories of ancient authorities.¹⁰⁶

In contrast to Apsyrtus and Theomnestus, who constantly refer to their own experience, Hierocles creates a distance between himself and the subject of his book, referring his reader to the authority of experts without pronouncing judgement on their opinions. This detachment from the theories and controversies of veterinary science is evident in instances where Apsyrtus praises or criticizes his sources, and Hierocles contents himself with reproducing the polemic in indirect discourse: 'Even though phlebotomy is approved by Eumelus, Apsyrtus rejects it' (*εἰ γὰρ καὶ Εὐμήλῳ δοκεῖ φλεβοτομία, ἀλλὰ Ἀψυρτος ἀποδοκιμάζει*).¹⁰⁷ He sets himself apart from 'experienced people' (*ἐμπειροί*): 'The experienced call a certain disease *marmaron*' (*καλοῦσιν τι πάθος οἱ ἐμπειροὶ μάρμαρον*).¹⁰⁸

⁹⁸ M40 = B2.12, *CHG* I p. 19; B20.6, *CHG* I p. 98; B26.1, *CHG* I p. 125; B26.9, *CHG* I p. 128; B34.7, *CHG* I p. 181; B76.1, *CHG* I p. 292; B77.1, *CHG* I p. 293.

⁹⁹ B1.18, *CHG* I p. 7; B19.4, *CHG* I p. 95; M642 = B75.5, *CHG* I p. 288; M705 = B87.2, *CHG* I p. 314.

¹⁰⁰ B23.1, *CHG* I pp. 120–1; M457 = B27.2, *CHG* I p. 140; B30.2, *CHG* I pp. 150–1.

¹⁰¹ M483 = B22.26, *CHG* I p. 111 and M1219 (indicated in the *πίναξ* but lost from the end of the MS) = B130.183, *CHG* I p. 435.

¹⁰² M1148 = B130.160, *CHG* I pp. 430–1, recommended for cows as well.

¹⁰³ B87.2, *CHG* I p. 314.

¹⁰⁴ e.g. the guarantee ... *χρῶ θαυμαστῷ φαρμάκῳ* in Theomn. is echoed by Hierocles at the end of the recipe as: *ἔστι δὲ τῶν καυστικῶν καταχρισμάτων ἄριστον*. Theomn. M255, *CHG* I p. 138; Hi. M955 = B96.20 f., *CHG* I p. 333. Cf. also Hi. M596, *CHG* II p. 75; Theomn. M585 = B66.3, *CHG* I pp. 259–60; Theomn. M100 = B97.8, *CHG* I p. 338, Hi. B97.5–6, *CHG* I p. 336.

¹⁰⁵ On terminology used in quotations in legal writings, see A. M. Honoré, *Gaius*, pp. xiv ff. and *Tabulae laudatoriae*.

¹⁰⁶ See Runia, 'What is doxography?'

¹⁰⁷ e.g. B10.5, *CHG* I p. 58.

¹⁰⁸ B53.2, *CHG* I p. 238.

A similar detachment from veterinary practices is illustrated by Hierocles' instructions for removing impacted faeces that are a symptom of 'dry cholera' (χολέρα ξηρά): whereas Eumelus and Apsyrtus recommend removing the obstruction by hand, Hierocles is content to let someone else perform the procedure: 'and a slave, inserting his hand into the rectum, should remove the dung' (καὶ παιδαρίου διὰ τῆς ἔδρας καθέντος τὴν χεῖρα ἐκκαθᾶραι τὰ κόπρια).¹⁰⁹ In Hierocles' chapter on leeches, Apsyrtus' instructions to a decurion to be aware of the menace of leeches while the herd are being watered are altered:

Aps. ὅτι ποτιζομένων τῶν ἀγελῶν μάλιστα δεῖ παρατήρησιν ἐπὶ τοῖς ὕδασι ποεῖσθαι φυλασσομένους τὰς βδέλλας. (Note that when the herds are being watered it is necessary to pay attention to keeping away leeches in the water.)

Hi. προσήκει δὲ καὶ τοὺς ταῖς ἀγέλαις ἐφεστηκότας προσέχειν τοῖς ὕδασι φυλασσομένους τὰς βδέλλας.¹¹⁰ (It is incumbent upon those who oversee the herds to take care that leeches are kept away from the water.)

A description of an incurable disease refers to a third party being blamed:

καλὸν δὲ γεγράφθαι τὰ σημεία, ἵνα μή τις τὸν νευριτικὸν δόξας ἐτέρῳ πάθει περιπεπτωκέναι, καὶ μὴ δυνηθεὶς θεραπεῦσαι, καταγνώσθῃ.¹¹¹

It is good that the symptoms be written out, lest anyone encounter another disease believing it to be *neuritikos*, and not being able to treat it, be judged unfavourably.

HIEROCLES AND APSYRTUS

In Apsyrtus, Hierocles chose an authority whose work was evidently available to and highly esteemed by writers in different parts of the empire—the compiler of the *Mulomedicina Chironis*, Pelagonius, Theomnestus. Moreover, letter collections were a favourite genre of the Second Sophistic: Aelian and Alciphron, to mention only two examples, composed fictitious letters attributed to farmers, fishermen, and other unsophisticated characters.¹¹² Hierocles might also have found Apsyrtus' work attractive as a sort of extended *ethopoiia* in the voice of a horse-doctor. But the setting of Apsyrtus' letters, in

¹⁰⁹ Eum. M638 = B75.9, *CHG I* p. 289, Aps. M633 = B75.1, *CHG I* p. 286; Hi. M642 = B75.3, *CHG I* p. 288; cf. also Aps. M732 = B41.1, *CHG I* p. 208; Hi. M41.2, *CHG I* p. 209. (But cf. M594 = B43.2, *CHG I* p. 215.)

¹¹⁰ Aps. M526 = B88.1, *CHG I* pp. 317–18; Hi. M530 = B88.2, *CHG I* p. 318.

¹¹¹ B83.2, *CHG I* p. 305; cf. Aps. M1 (printed as B1.2), *CHG I* p. 1, for a similar caution in the second person.

¹¹² P. Rosenmeyer, *Ancient Epistolary Fictions*, 255 ff.

the army-camps and on the Danube frontier, and their references to Roman soldiers and functionaries were obviously distasteful to Hierocles, who removed all of Apsyrtus' references to military life. He does not refer, in what is preserved of the Greek text, to the form of Apsyrtus' text, nor to his reason for using it. Only once does Hierocles criticize a source—not for its content, but for its organization:

συνέχρόν τινες τὸν περὶ τῶν ὑπὸ ἐχέων ἢ σκορπίων ἢ φαλαγγίων ἢ μυγαλῶν δηχθέντων λόγον, ἡμεῖς δὲ καθ' ἕκαστον εὐκρινῶς ἐροῦμεν.¹¹³

Some people confused their accounts of horses bitten by snakes, scorpions, beetles, and shrew-mice: but we shall speak of each distinctly.

Hierocles' source for the chapter on snakebite and scorpion- and spider-stings is Apsyrtus; but since excerpts from both texts are 'shuffled' together in the compilation it is difficult to tell whether indeed Hierocles' presentation was clearer. References to other writers in remedies for bites and stings,¹¹⁴ as well as the presence of material not in Apsyrtus (remedies for horses stung by a stingray (τρυγῶν θαλάσσια), poisoned by wolfsbane (μυοφόνον), or hemlock (κώνειον), or bitten by caterpillars (κάμπαι)),¹¹⁵ suggest, moreover, that Hierocles used another source in the section on toxicology. Hierocles excuses his abbreviated discussion of castration by saying that Apsyrtus' instructions will suffice:

ὅπως μὲν δεῖ ἐκτέμνειν ἵππον ἀποχρώντως Ἀψυρτος διδάσκει. τοσοῦτον δὲ ἐνταῦθα εἰπεῖν ἄξιον . . .¹¹⁶

Apsyrtus gives sufficient instruction about how to geld a horse. It is, however, worth saying this much here . . .

He thus seems to imply that his own work is not intended to supplant that of Apsyrtus. But what are the differences between the two? Bearing in mind that much of Hierocles' text is preserved only in the B recension, which on the whole has undergone a certain amount of reworking, we may make a few observations. First, the form of the treatise is entirely different: Hierocles dispensed with Apsyrtus' device of the epistolary form, and organized his treatise into two books composed of short chapters on various maladies. Having omitted Apsyrtus' epistolary greetings, as well as the useful element of *erotapokrisis*, Hierocles simply adapts the disclosure formula of the letters to introduce the subject of each chapter:

¹¹³ B86.2, *CHG* I p. 308.

¹¹⁴ Tarantinus and Stratonicus are quoted, in addition to Apsyrtus, on shrew-mouse bites, M705 = B97.2, *CHG* I p. 314.

¹¹⁵ B91, 92, 93, *CHG* I p. 322; M706 = B87.9, *CHG* I p. 317.

¹¹⁶ B99.4, *CHG* I p. 342.

περὶ κριθιάσεως ἐντελέστερον διελθεῖν χρήσιμον,¹¹⁷

It is useful to go through in detail and completely the subject of laminitis.

ἐντελέστερον διελθεῖν ἄξιον περὶ τῶν ἀπορρηξάντων τι τῶν ἐνδον¹¹⁸

It is worth it to go through in detail and completely the subject of those who have ruptured one of the internal organs.

ὅταν κοιλίαν ἵππος ἀλγῇ, δεῖ μάλιστα προσέχειν τοῖς σημείοις¹¹⁹

When a horse is suffering from colic, it is worth paying attention to the symptoms.

He occasionally indicates where he has abbreviated Apsyrtus' treatment of a subject:

ὥς μὴ δοκεῖν ἡγνοηκέναι τι τῶν τοιούτων, βραχέα περὶ κνήσεως καὶ διαφθορᾶς ἐμβρύου λέξωμεν.¹²⁰

In order that we not appear ignorant about any of these things, we shall speak briefly about gestation and about the destruction of the embryo.

Hierocles omits a certain amount of content: all Apsyrtus' etymologies of medical terms,¹²¹ anatomical discussions;¹²² references to travel or military life,¹²³ as well as several entire chapters about cows and mules.¹²⁴ Apsyrtus' references to the Sarmatians are retained—exotic barbarians being an acceptable feature of classicizing prose. He does not repeat Apsyrtus' prescriptions of popular magic, with their appeals to strange gods, though his text contains two incantations invoking characters from classical mythology. He adds to Apsyrtus' text from other authors; and although he cites the names of his sources, he reworks their texts so that the whole has a uniform style,¹²⁵ unlike, for example, Theomnestus, whose quotations from Agathotychus, Nephon, and others appear as blocks of text with separate lemmata, apparently copied verbatim from the sources.

Apsyrtus' text appears in the *Hippiatrica* conveniently juxtaposed with Hierocles' rendition of it: the two texts provide an interesting example of the same material presented in two different styles.¹²⁶ Unfortunately most

¹¹⁷ B8.4, *CHG* I p. 50. ¹¹⁸ M596, *CHG* II p. 75.

¹¹⁹ M592 = B31.1, *CHG* I p. 156.

¹²⁰ B15.1, *CHG* I p. 85.

¹²¹ e.g. of κριθιάσις Aps. M102 = B8.1, *CHG* I p. 49; Hi. B8.4, *CHG* I p. 50; of ὀπισθότονος Aps. M316 = B34.1, *CHG* I p. 177; Hi. B34.6, *CHG* I p. 181.

¹²² e.g. about the length of the intestines, Aps. M571 = B36.1, *CHG* I p. 195; Hi. B36.3, *ibid.*

¹²³ Aps. M558 = B67.1, *CHG* I p. 262; Hi. B67.2, *ibid.*; Aps. M751 = B72.1, *CHG* I pp. 280–1; Hi. B72.2, *CHG* I p. 281.

¹²⁴ Aps. M916 (cows), M626 = B102 and M80 = B14.1 (mules).

¹²⁵ See E. Norden, *Die antike Kunstprosa*, 89–90 on 'stylistische Einheitlichkeit'.

¹²⁶ Cf. I. Ševčenko, 'Levels of Style in Byzantine Prose', *Jahrbuch der Österreichischen Byzantinistik*, 31.1 (1981), 289–312.

of the longer passages in which Hierocles follows Apsyrtus are only known from the B recension, so it is impossible to gauge precisely how much Apsyrtus' words have been altered by Hierocles, and how much by the overall rewriting of the text of B. Those passages present in M permit more accurate comparison. The accounts of ear infections in the two authors show that Hierocles stays close to his source:¹²⁷

Hierocles

Ἐάν ἑλκος ἐν ὠτίῳ ἢ ἀπόστημα γένηται, συσταθέντος ὑγροῦ πυώδους ἢ ὁμοίου μελικηρίδι, τεμνέσθω ὄρθιον, καθὼς ἴσταιται, καὶ θεραπεύεσθω διὰ τοῦ μέλιτος καὶ τῆς στυπτηρίας.

If an abscess or infection occurs in the ear, there will also be a fluid, pus-like or like a cyst. Let it be cut vertically, as it stands, and let it be treated with honey and alum.

Apsyrtus

Ὅταν δὲ γένηται ἐν τῷ ὠτίῳ ἑλκος ἔχειν ἢ ἀπόστασιν ἐν τῇ διπλοῖδι, συμβαίνει ὑγρὸν ἔχειν καὶ πυώδες ὅμοιον τῇ μελικηρίδι. ὃ δὲ τέμνειν ὄρθιον, καθὼς πεφυκεν. θεραπεύεται δὲ διὰ τοῦ μέλιτος καὶ τῆς στυπτηρίας. ἀνάγκη δὲ αὐτὸν κλαμβόν γενέσθαι.

When it occurs that it has an infection in its ear, or an abscess in the outer part of the ear, it follows that it has a fluid that is pus-like, similar to a cyst. One ought to cut this off, as it is, vertically. It is treated with honey and alum. It is necessary for it to be docked.

Here we see that Hierocles repeats Apsyrtus' instructions, but with passive imperatives, and eliminates two unusual words used by Apsyrtus in a technical sense, διπλοῖς 'double mantle' and κλαμβόν 'cropped or docked'. Similarly faithful renderings of Apsyrtus, with some loss of detail, may be seen in Hierocles' discussions of diarrhoea (διάρροια),¹²⁸ vomiting through the nose and mouth (χορδαφός),¹²⁹ and burns from lime (ἄσβεστος, κονία).¹³⁰ The last illustrates the close resemblance of the two texts:

Hierocles

Ἐάν συμβῇ ἀπὸ ἀσβέστου κονίας κατακαυθῆναι τὸ οἰονδήποτε μέρος τοῦ σώματος ἢ καὶ ὑπὸ κοπρίας τῆς καιομένης ἢ καὶ ἄλλως πως· θέρουσι μὲν ὕδατι ψυχρῷ κατάντλει, χειμῶνος δὲ ὕδατι θερμῷ καὶ κατάχρῃ τῇ λιπαρῇ, ἐὰν δὲ βούλῃ, μετὰ

Apsyrtus

Ἐάν δε ποτε συμβῇ ἀπὸ τῆς ἀσβέστου κατακαῖναι τὸν ἵππον ἢ κονίας τῆς λεγομένης ὑπὸ τινων τιτάνου ἐν ᾧδήποτε τόπῳ τοῦ σώματος, ἢ ἐμβῇ εἰς κοπρίαν τὴν ἐκ τοῦ αὐτομάτου καιομένην καὶ κατακαῖ τὰ σκέλη, ἢ ἄλλως συμβῇ πως, θεραπεύεται

¹²⁷ Aps. M115 = B17.1; Hi. M118 = B17.2, *CHG* I p. 91.

¹²⁸ Aps. M103 = B35.1; Hi. M1105 = B35.2, *CHG* I pp. 192–3.

¹²⁹ Aps. M736 = B37.1; Hi. M593 = B37.2, *CHG* I pp. 197–8.

¹³⁰ Aps. M684 = B65.1; Hi. M1162 = B65.2, *CHG* I p. 258.

στέατος, ἢ αὐτῇ τῇ ασβέστῳ μετὰ ἐλαίου. εἰς
θάλασσαν (δε μη B) ἐμβιβαζέσθω, μέχρῃς
οὐδ' ἀπουλωθῇ.

If it should happen that it be burned by
lime-plaster in any part of the body what-
soever, or by burning dung or some other
way, in summer pour over it cold water and
in winter hot, and anoint it all over with
fatty [ointment], or if you like, with tallow,
or the lime itself with oil. Let it not be
bathed in the sea, until it has scarred over.

καταντλούμενος ὕδατι ψυχρῷ θερείας,
χειμῶνος δὲ θερμῷ, καὶ καταχρίόμενος τῇ
λιπαρᾷ, ἐὰν θέλῃς, μετὰ ἀξουγγίου, ἢ αὐτῇ
τῇ ασβέστῳ μετ' ἐλαίου. εἰς θάλασσαν μὴ
ἐμβιβάξιν ἄχρῃς οὐδ' ἀπουλωθῇ.

If ever it should happen that a horse be
burned by lime or the plaster that some
people call *titanos*, in any place whatsoever
in the body, or if it walks into dung which is
spontaneously burning and it burns its legs,
or if it happens some other way, it is treated
by having cold water poured over in sum-
mer, and in winter warm water, and by
being anointed all over with fatty (oint-
ment), if you like, with grease or with the
lime itself in oil. Do not bathe it in the sea
until it has scarred over.

Hierocles has shortened the passage, eliminating the mention of the horse and of its legs, as well as the technical terms *τίτανος* and *αὐτομάτου*; he has also replaced the Latin loanword *axungia* with the equivalent *στέαρ*. In the instructions for treatment, he has replaced the infinitive with a passive imperative. Yet he has not changed the text substantially, even replicating Apsyrtus' aside 'if you like' to the reader.

Word substitutions effected in other places by Hierocles include: *ῥώθωνες* 'nostrils' changed to *μυκτήρ*,¹³¹ *οὐρά* 'tail' becomes *κέρκος* but not consistently;¹³² Apsyrtus' *μαγδαλιά* 'pellets' is replaced with *μάζα*,¹³³ *σισύραις* 'cloths' with *περιβολαῖον*,¹³⁴ *ῥαφίς* 'needle' with *βελόνη*, the last in accordance with the recommendation of the Atticists.¹³⁵ The word for cartwheel-track in a traditional cure recommended by Apsyrtus 'it is also said that it helps to smear it with earth from a wheel-track mixed with vinegar' (*λέγεται δὲ καὶ τῇν*

¹³¹ Aps. M570 = B43.1, *CHG* I p. 214; Hi. M594 = B43.2, *ibid.*; also Aps. M569 = B46.2, *CHG* I p. 221; Hi. B46.4, *ibid.* Aps.' *μυκτήρ* not changed; Aps. M438, *CHG* I p. 240 apparatus; Hi. B54.5, *CHG* I p. 241.

¹³² Aps. M710 = B55.1, *CHG* I p. 242; Hi. B55.2, *CHG* I p. 242–3. Aps. M532 = B41.1, *CHG* I p. 208; Hi. B41.2, *CHG* I p. 209. But Aps. M569 = B46.2, *CHG* I p. 221; Hi. B46.4, *ibid.* Cf. Pollux I.190: *οὐρά προμήκης· Σίμων δ' αὐτὴν κέρκον καλεῖ.*

¹³³ Aps. M741 = B88.1, *CHG* I p. 320; Hi. M744 = B88.3, *CHG* I p. 321. Aps. M347 = B39.1, *CHG* I p. 204; Hi. B39.2, *CHG* I p. 205 (the editor of B makes the same substitution in Aps.' text).

¹³⁴ Aps. M192 = B38.2, *CHG* I p. 199; Hi. B38.4, *CHG* I p. 200.

¹³⁵ Aps. M162 = B48.1, *CHG* I p. 223; Hi. B48.2, *CHG* I p. 224; cf. Pollux IV.181. The substitution *βελόνη* for *ῥαφίς* noted by Cadbury, 'Lexical Notes on Luke-Acts V. Luke and the Horse-Doctors', 59.

ἐκ τῆς ἀμαξοτροχίας γῆν ὄξει φυράσαντα καταχρίειν ὠφέλιμον) is altered by Hierocles to 'the dust beneath the grinding of the wheels' τὸν κονιορτὸν οὖν τὸν ὑπὸ τῇ τρίψει τῶν τροχῶν.¹³⁶ In some instances we are at pains to discern the logic behind Hierocles' substitutions. *Τελαμών*, 'bandage', a perfectly classical word, is changed to *ἄμμα*.¹³⁷ In one passage, Hierocles changes 'it has a thin and mucous diarrhoea' *τιλήσει λεπτὸν καὶ μυξῶδες* to 'if you see it excreting a mucous substance' *ἐὰν ἴδῃς μυξῶδες ἀποπατοῦντα*,¹³⁸ yet in the next excerpt, Apsyrus' *τιλήσει* is retained.¹³⁹ The intention may simply be to paraphrase. In fact sometimes Hierocles changes very little, especially—and sensibly—if he is conveying instructions for a complicated procedure.¹⁴⁰

Apsyrus often uses analogy as a technical device to describe the symptoms of disease.¹⁴¹ Hierocles may well have treated the analogies he encountered in Apsyrus or other sources as ornamental literary similes: he sometimes retains them, sometimes omits them, and sometimes alters them. The description of the symptoms of *δπισθότονος* as 'sitting like a dog' (*ἀνακαθίζει ὡς κύων*) is repeated,¹⁴² the image of the horse choking as though it has swallowed a bone is also used in a different context, possibly related to a passage in Eumelus.¹⁴³ The comparison of a nasal polyp (*πολύπους*) to a sea-polyp or octopus (*πολύπους*) is omitted, and the comparison to a mulberry, derived from a different context in the same passage of Apsyrus, is used in its place.¹⁴⁴ A comparison of the swelling of strangles (*παρωτίς*) to a walnut is not found in Apsyrus, but may have dropped out of his text, since it is unlikely that Hierocles added first-hand medical observations of his own.¹⁴⁵ A vivid comparison of the movement of a feverish horse to the swaying of a drunk (*κατὰ μικρὸν δὲ ἐπιβαίνει παραφέρων τὸ σῶμα, ὥσπερ οἱ διὰ ποτὸν πλείονα ἀκροθώρακες καὶ σφαλλόμενοι*) is not present in Apsyrus either—could it have been added by Hierocles?¹⁴⁶

¹³⁶ Aps. M694 = B87.1, *CHG* I p. 314; Hi. M75 = B87.2, *ibid*.

¹³⁷ Aps. M174 = B74.1, *CHG* I p. 283; Hi. B74.3, *CHG* I p. 284.

¹³⁸ Aps. M741 = B89.1, *CHG* I p. 320; Hi. M744 = B89.3, *CHG* I p. 320.

¹³⁹ Aps. M745 = B90.1, *CHG* I p. 321; Hi. M746 = B90.2, *CHG* I p. 322.

¹⁴⁰ e.g. treatment of wounds Aps. M207 = B47.1, *CHG* I pp. 221–2; Hi. B47.3, *CHG* I pp. 222–3.

¹⁴¹ Cf. Lloyd, *Polarity and Analogy*, pp. 172 ff.

¹⁴² Aps. M316 = B34.1, *CHG* I p. 177; Hi. B34.6, *CHG* I p. 181. This symptom is typical of colic (*The Merck Veterinary Manual*, 166), in which context the analogy is usually used today.

¹⁴³ Hi. B5.1, *CHG* I p. 40; cf. Aps. M13 = B2.6, *CHG* I p. 16, Eumelus M536 + B6.4, *CHG* I p. 44; also Anatolius, *Geop.* XVII.13.

¹⁴⁴ Hi. B21.3, *CHG* I p. 102, cf. Aps. M552 = B21.1, *CHG* I p. 101.

¹⁴⁵ Aps. M114 = B16.1–2, *CHG* I pp. 88–9; Hi. B16.3, *CHG* I p. 89.

¹⁴⁶ Aps. M1 = B1.3, *CHG* I pp. 1–2; Hi. B1.15, *CHG* I p. 7.

OTHER SOURCES

What can be deduced from the other names and remedies quoted by Hierocles? They were evidently written sources: Hierocles writes 'if the neck of a beast of burden is abraded it is good to use the treatment that we found among those of Cleomenes the Libyan' (ἐὰν αὐχὴν ὑποζυγίου παρατριφθῇ καὶ ἐπαρθῇ, καλὸν χρῆσθαι τῇ θεραπείᾳ, ἣν ἐν τοῖς Κλεομένους τοῦ Λίβυος εὔρομεν).¹⁴⁷ The plural probably refers to a collection of remedies, evidently not just for horses but for ὑποζύγια, other beasts of burden such as oxen or mules, as well. The remedy attributed to Hippasius is recommended for cows as well.¹⁴⁸ Did he consult each text independently, or already gathered in some sort of collection? In the prooimion to book I of his treatise, Hierocles mentions that he has consulted Tarantinus and the agricultural work (Γεωργικά) of the Quintilii; both, as we have seen, figure among Anatolius' sources. Hierocles' list of treatments for the bite of a shrew-mouse (μυγαλή) includes references both to Stratonicus and to Tarantinus. Were they independent, or part of the same compilation? Hierocles' manner of citation is ambiguous: he names the authors separately, rather than explaining their relation to one another in a double citation; for example, Στρατόνικος ἐν τοῖς Ταραντίνου.¹⁴⁹

Hierocles' treatments for μᾶλιν (glanders) are not based on Apsyrtus (for this reason they are included in M). One of them is attributed to Hieronymus; it presents an interesting parallel to Pelagonius:¹⁵⁰

Hierocles

Εἰ δὲ ὑποδερματίτις εἴη, ὡς Ἱερώνυμος ὁ Λίβυς φησὶν, ἀναπνέει διὰ μυκτῆρων ὁσμώδη καὶ πυώδη καὶ βήττει καὶ ἰσχυαίνεται καὶ ῥήγνυνται, οὗ ἂν τύχη τοῦ σώματος, πυώδη τινα...

ἐγχυματίζειν δὲ διὰ στόματος χυλὸν πιτσάνης ἐκ βρόμου διηθιμένης, καθειληθέντος ἐν αὐτῇ μάλιστα μὲν κυνὸς σκυλακίου καλῶς κεκαθαρμένου καὶ μεμαδισμένου, εἰ δὲ μή, ὄρνιθος...

Pelagonius

... toto corpore concidit, naribus reddit umida et aquam multam bibit, tussit duri-ter et stertit,¹⁵¹ ... corium eius male olet...

catulus etiam lactans occiditur¹⁵² eiusque interiora purgantur atque ita aqua ad dimidium decoquitur adiecto nitro... gallo etiam occiso idem hoc fieri solet.

¹⁴⁷ B23.1, *CHG* I pp. 120–1.

¹⁴⁸ M1148 = B130.160, *CHG* I pp. 430–1.

¹⁴⁹ Hi. M705 = B87.2, *CHG* I p. 314–15.

¹⁵⁰ Hi. M40 = B2.12, *CHG* I p. 19, Pel. Lat. 204.

¹⁵¹ The reading of the Einsiedeln manuscript: see Corsetti, 'Un nouveau témoin,' p. 47.

¹⁵² The reading of the Einsiedeln manuscript: see Corsetti, 'Un nouveau témoin,' 45 and Adams, 'Notes on the Text, Language, and Content of Some New Fragments of Pelagonius,' 489 n. 7.

If it should be subcutaneous, as Hieronymus the Libyan says, its breath is through the nostrils, odorless and putrid, and it coughs and becomes thin, and putrid things burst forth all over the body...

and drench through the mouth with a strained gruel of oats, cooking in this a puppy, well-cleaned and plucked; if not, a fowl...

the whole body falls apart, it discharges liquid through its nostrils and drinks much water, coughs harshly and snorts... its hide smells bad...

or a suckling puppy should be killed and its innards cleaned and boiled down in water by half, with natron added... this can be also made with a killed fowl.

In his chapter on *ὀρθόπνοια*, Hierocles cites Cleomenes, who is called 'the Libyan' in B: the passage is very close to Eumelus and Pelagonius. Hierocles does not include the sympathetic application of the animal's own blood recommended by Eumelus, nor the hellebore cure. He does, however, as in the passage quoted above, give instructions for using the blood of a puppy in a drench—a procedure, which, as we have seen, is consistently omitted by Eumelus, but present in Pelagonius.¹⁵³ Hierocles is not following Apsyrus, whose lists of symptoms and prescriptions are very different (although they do include a puppy).¹⁵⁴

Hierocles

Σημεία ὀρθόπνοιας τάδε
δυσπνοεῖ, καὶ οἱ μυκτῆρες
διαπέπρησται, καὶ ἐκ τῶν
λαγόνων ἔλκεται τὸ ἄσθμα.
δεῖ τοίνυν θερμαντικὰ
προσφέρειν, ὥς φησι
Κλεομένης (ὁ Λίβυς
ὀρόβους βεβρεγμένους)
ἐρεβίνθους, βρόμους, κριθάς,
καὶ τῷ ποτῷ παραμίσγε τὰ
ἄλευρα, ἐγχυμάτιζε
τραγακάνθους διὰ γλυκές
οἶνου παραμίσγων θείου
ἀπύρου βραχύ, ἢ ἄλλως
σκυλάκιον σφάξας, ἔχει διὰ
στόματος τὸ αἷμα θερμόν,
ἐπιπάσας κυμίνου
Αἰθιοπικοῦ λείου κοχλιάρια
β' ἐπὶ ἡμέραις θ'.

Eumelus

Δύσπνοια ἢ ὑπὸ Ἑλλήνων
ὀρθόπνοια ὀνομαζομένη
γνωρίζεται, ὀπηνίκα τοὺς
μυκτῆρας ὀρθοὺς ἔχει πῦά τε
δι' αὐτῶν φέρεται καὶ τὰς
λαγόνους ἔλκεται, τοὺς
ὀφθαλμοὺς ἀφαστώτας ἔχει.
θεραπεύσεις οὖν οὕτως...
τροφῆς, καθ' ὅσον ἐγχωρεῖ,
ἀπεχέσθω, ἢ πάλιν τούτοις
κεχρήσθω τοῖς θερμαίνειν
δυναμένοις, τοῦτ' ἐστὶν
ὀρόβοις, ἐρεβίνθοις, ἀλεύρω
σιτίνῳ, τῷ δὲ θέρει κριθίνῳ.
γινέσθω δὲ ἐγχυματισμὸς
τοιούσδε: τραγακάνθους,
ἔψιμα, θέαφον, μίξας δὲ καὶ
κυμίνου Αἰθιοπικοῦ ὅσον
τρισὶν δακτύλοις λαβεῖν
δυνήθης, οἶνω σύμπαντα
μίξας διδου ἐπὶ ἡμέρας ἑβ' ἢ
καὶ κ'...

Pelagonius

Ad suspirium, quod Graeci
orthopnoean vocant,
cognoscitur autem cum
iumentum nares arrectis
habet purulentaque emittit
et crebrius ilia attrahit ocu-
losque habet arrectories.
curatio eius talis est... cibis,
in quantum fieri potest,
abstinetur, vel iis utitur, qui
calefacere possunt, aut herbi
aut ciceris aut triticea farina,
aestate etiam hordeacia;
infusi etiam tracanthi,
sapae, sulphuris, vel etiam
catuli sanguine adiecto, et
cymini triti quod tribus
digitis sustuleris: ea omnia
vino dabis commixta... per
dies continuos novem

¹⁵³ Hi. M457 = B27.2, *CHG* I p. 140 (text of M, but *ὁ Λίβυς* only in B), Eum. M30, *CHG* II pp. 32–3; Pel. Lat. 205. Omission of puppy by Eum. noted by Adams, 'Pelagonius, Eumelus, and a Lost Latin Veterinary Writer', 16.

¹⁵⁴ Aps. M456 = B27.1, *CHG* I p. 140 + C18.1, *CHG* II p. 155.

These are the signs of *orthopnoia*: it has trouble breathing, and the nostrils are swollen, and it draws in its breath from its flanks. One ought to offer it warming things, as is said by Cleomenes <the Libyan: moistened vetch-seeds,> chick-peas, oats and barley, and mix flour into their drinking-water, and drench with tragacanth, mixing in a little native sulphur, in sweet wine. Otherwise, killing a puppy, pour the warm blood in through the [horse's] mouth, and spread over it two spoonfuls of ground Ethiopian cumin for 9 days.

Dyspnoia, which is called by the Greeks *orthopnoia*, is recognized when it has upright nostrils and brings forth pus from them and draws in its flanks, and its eyes stand out. You will treat it in this way. Let it abstain from feed as much as possible, or else let it use these that can warm, namely vetch-seeds, chick-peas, wheaten flour, in summer barley flour. And let this drench be made: tragacanth, must, sulphur, mixed with as much Ethiopian cumin as you can take in three fingers, mix it all with wine, and administer for 12 or even 20 days . . .

For *suspirium*, which the Greeks call *orthopnoia*. It is recognized when the horse has upright nostrils and emits putrid [matter] from them, and repeatedly draws in its flanks, and its eyes stand out. Its treatment is like this: let it abstain from feed as much as possible, or let it use those that can warm, such as grass or chick-peas or wheaten flour, or barley flour in summer, with drenches of tragacanth, must, sulphur, or else the blood of a puppy added, and as much ground cumin as you can pick up with three fingers: give all these mixed with wine. . . . for nine days straight.

Comparison of the three authors shows that while Pelagonius seems, as usual, to be copying his source verbatim, Eumelus removes the reference to the puppy, and Hierocles, as is his habit, paraphrases (possibly without understanding his source entirely). But he seems to be following the same source, or a very similar one, as a small detail illustrates: where Eumelus calls for 'Ethiopian cumin' and Pelagonius 'ground cumin', Hierocles recommends 'ground Ethiopian cumin'—probably what was specified in the source. Hierocles' quotations from two different authors have parallels in continuous passages in Eumelus and Pelagonius: Hierocles probably found the texts of Hieronymus and Cleomenes gathered together in some sort of collection, which would also fit the pattern we have observed in his method of research.

One wonders whether Hieronymus and Cleomenes, whom Hierocles calls 'Libyan', could have been among the Greek sources added by Cassius Dionysius of Utica to his translation of Mago. Although their names do not appear in Varro's list of fifty authors used by Cassius Dionysius, Varro did not include technical veterinary material in his treatise, and so might not have felt it necessary to give the names of all Cassius Dionysius' sources for such material. A treatment for *opisthotonos* attributed to *ἐνιοι* by Hierocles appears in Pelagonius attributed to Eubulus, a name that does figure in Varro's list.¹⁵⁵

¹⁵⁵ Hi. M325 = B34.10, *CHG* I p. 183; Pel. Lat. 271; cf. Varro, *RR* I.1.9.

Hierocles

Ἔνιοι δὲ καὶ τούτῳ τῆς βοηθείας ἐχρήσαντο
 τρόπῳ . . . εἰσαγαγόντες εἰς βαλανεῖον καὶ
 ποιήσαντες ἰδρώσαι, καταμάσσουσιν
 ἔνδοθεν ξηροῖς σαβάνοις. καὶ μικρὸν
 ἔξαγαγόντες, καὶ πάλιν εἰσαγαγόντες,
 ὁμοίως καταμάσσουσι, εἴτα χρίουσι θερμοῖς
 χρίσμασι . . .

And some have used this method of treatment: leading it into a bath and making it sweat, they rub it down inside with dry cloths. And leading it out for a little bit, and leading it back in again, they rub it down in the same way, and then they anoint it with warm ointments.

Pelagonius

Ad opisthotonos, Eubuli. . . aut in balneo
 sudet aut unctionibus iis curato, quae
 calefaciant corpus

For opisthotonos, of Eubulus . . . or let it sweat in a bath or let it be treated with ointments that warm the body

Hierocles' use of this source may explain the similarities between his text and that of Hippocrates, who also appears to draw upon the Diophanes–Cassius Dionysius tradition, as we shall see. Hierocles' recommendations for the treatment of shagginess (δασύτης)¹⁵⁶ and 'prickly heat(?)' (κεντρίτις)¹⁵⁷ which are not drawn from Apsyrtus, call for sympathetic application of the horse's own blood, a characteristic of the source common to Pelagonius and Eumelus.

In the body of the treatise are two more items that Hierocles seems to have drawn from Aristotle via Aristophanes or Diophanes. At the end of his paraphrase of Apsyrtus' chapter on dysury, Hierocles adds 'one ought to believe Aristotle, who says that only the horse is afflicted by the disease of dysury' (δεῖ γὰρ μὴν πεῖθεσθαι Ἀριστοτέλει, ὃς φησιν ἵππον μόνον περιπίπτειν τῷ τῆς δυσουρίας πάθει); in fact the quotation is closer to Aristophanes than to Aristotle.¹⁵⁸ A reference to the fact that the oily smoke from a freshly extinguished lamp will cause a mare to miscarry is not present in the fragments of Aristophanes (the end of Athous, Dionysiou 180 is damaged, so that the chapter on the horse is lacunose and incomplete); but the same item of information is in Aristotle, and repeated by Pliny and Aelian.¹⁵⁹

¹⁵⁶ M748 = B94.2, *CHG* I p. 323.

¹⁵⁷ C75, *CHG* II p. 213.

¹⁵⁸ B33.15, *CHG* I p. 172; Arist. Byz. ed. Lambros, II.582; Arist. *HA* (VII) VIII 604b.

¹⁵⁹ B15.2, *CHG* I p. 86; Aristotle, *HA* (VII) VIII 604b; Pliny, *NH* VII.43; Aelian, *HA* IX.54.

MAGIC

The two remedies of magical nature attributed to Hierocles (preserved only in M) are, in keeping with his taste, classicizing both in form and in content. The first is a *historiola*, prescribed against inflammation; Hierocles gives no practical instructions about whether the spell is to be written or recited.

Ἀφλέγμαντον·

Κίρκη καὶ Μήδεια ἐκαθέζοντο πρὸς ἀνατολὰς ἡλίου, ἐζήτουν τὸ ἀφλέγμαντον εἴτε ἀπὸ λίθου εἴτε ἀπὸ ξύλου εἴτε ἀπὸ κυνοδήκτου. τὸ γὰρ ἔλκος ἀνήλιόν ἐστιν.¹⁶⁰

Anti-inflammatory

Circe and Medea were sitting before the sunrise and seeking the anti-inflammatory, whether from stone or from wood or from one bitten by a dog. For the wound is sunless.

Circe was a daughter of Helios, and Medea was her niece: the connection of the horse with the sun-god is mentioned in Hierocles' encomium, in Pelagionius' preface, and in a spell in his treatise.¹⁶¹ Aelian, too, mentions Circe and Medea together as sorceresses (*φαρμακίδες*).¹⁶² But the formula *εἴτε ἀπὸ λίθου εἴτε ἀπὸ ξύλου* belongs to the vocabulary of magic.¹⁶³ Another passage is apparently to be used against snake-bite:

Δεινὸν ἐχίδνης δῆγμα καταχρισθὲν τιθυμάλλῳ
παύεται. ὦ Χείρων, τοῦτο σε πῶς ἔλαθεν;
οὐκ ἀφύως ὁ Κόϊντος ἀνεύρετο τέσσαρα ταῦτα·
γεντιανήν, δάφνας, σμύρναν, ἀριστολόχην.¹⁶⁴

Fearsome bite of viper, anointed with spurge, is relieved.

O Cheiron, how did this elude you?

Not without wit did Quintus come up with these four things:

Gentian, bay-leaves, myrrh, birth-wort.

It has been pointed out that the two distichs appear to be unrelated;¹⁶⁵ however, an excerpt in C attributed to Julius Africanus prescribes the same four herbs in case of snake-bite or scorpion-sting.¹⁶⁶ The Quintilii were a source for Africanus: perhaps their treatise was Hierocles' source for these *φυσικά*.

¹⁶⁰ M156, *CHG* II p. 40 (Heim, *Incantamenta*, no. 106). On ἀνήλιος see R. Durling, 'Lexicographical Notes on Galen's Pharmacological Writings I', *Glotta*, 57 (1979), 219.

¹⁶¹ M692, *CHG* I p. 309; Pel. Lat. 283–4. Helios on magical amulets: Bonner, *Studies in Magic Amulets*, 148 ff.

¹⁶² *HA* I.54 and II.14.

¹⁶³ Cf. e.g. V102, *CHG* II p. 297.

¹⁶⁴ M691, *CHG* II p. 83.

¹⁶⁵ Haupt, 'Varia LIII', 22–3.

¹⁶⁶ Africanus C71, *CHG* II p. 205. A prescription for the τετραφάρμακον appears separately under Hierocles' name: M1151 = B130.163, *CHG* I p. 431.

THE LATIN TRANSLATION OF HIEROCLES BY
BARTHOLOMEW OF MESSINA

A Latin translation of Hierocles is preserved in nine manuscripts; a version in Sicilian dialect, probably based on the Latin, exists in one copy (and possibly a second).¹⁶⁷ The incipit which introduces the text in several of the manuscripts states that the treatise of Hierocles was translated from Greek into Latin for King Manfred of Sicily by Bartholomew of Messina.

Incipit liber Eraclei ad Bassum de curatione equorum in ordine perfecto habens capitula differentia translatus de greco in latinum a magistro Bartholomaeo de Messana in curia illustrissimi Maynfredi, serenissimi regis Siciliae, sciencie amatoris, de mandato suo.¹⁶⁸

Here begins the book of Eracleus [dedicated] to Bassus, on the curing of horses, having different chapters in perfect order, translated from Greek into Latin by master Bartholomew of Messina at the court of the most illustrious Manfred, most serene king of Sicily, lover of science, by his command.

There seems no reason to doubt the attribution of the translation to Bartholomew, since the incipit follows the formula with which he prefaced all of his known translations of Greek philosophical and medical texts.¹⁶⁹ Virtually all that is known about Bartholomew is deduced from these incipits.¹⁷⁰ He worked for Manfred, son of Frederick II Hohenstaufen, king of Sicily and Naples (1258–66), and is known for his translations of Aristotelian and pseudo-Aristotelian works: the *Magna moralia*, *Physiognomonica*, *Mirabilium auscultationes*, and assorted medical texts, including the Hippocratic treatise

¹⁶⁷ Partial lists given by Björck, 'Apsyrtus', 36–47 and Y. Poulle-Drieux, 'L'hippiatrie dans l'Occident latin du XIII^e au XV^e siècle', in G. Beaujouan, Y. Poulle-Drieux, J.-M. Dureau-Lapeyssonnie, *Médecine humaine et vétérinaire à la fin du Moyen Âge* (Geneva and Paris, 1966), 25; a more complete list, with catalogue references, in Lazaris, 'Contribution à l'étude de l'hippiatrie grecque et de sa transmission à l'Occident', 162–4. They are: Paris. fr. 20167, Lond. Harley 3772, Bologna, Biblioteca Universitaria 1383 (2634), Madrid, BN 593, Pisa, Convent of St Catherine 146, Parma, Biblioteca Palatina 3594, Vat. Urb. lat. 1344, Vat. Reg. lat. 1010, Vat. Reg. lat. 1301. See also Fischer, 'A Horse, a horse, my kingdom for a horse: Versions of Greek Horse Medicine in Medieval Italy', *Medizinhistorisches Journal*, 34 (1999), 132–5.

¹⁶⁸ The titles give Hierocles' name in various deformations: Liber Eraclei, Errelei, Erodei, Gerodei, etc.

¹⁶⁹ For the same incipit in Bartholomew's other translations, see R. Seligsohn, *Die Übersetzung der ps.-aristotelischen Problemata durch Bartholomaeus von Messina* (Berlin, 1934), 9; R. Foerster, *Scriptores physiognomonici graeci et latini* (Leipzig, 1893; repr. 1994), 5 apparatus; W. Kley (ed.), *Theophrasts Metaphysisches Bruchstück und die Schrift Περὶ σημείων in der lateinischen Übersetzung des Bartholomaeus von Messina* (Würzburg, 1936), 3; Irigoin, 'Manuscripts italiotes et traductions latines de traités scientifiques et techniques', 607–11.

¹⁷⁰ S. Impellizzeri, 'Bartolomeo da Messina', *Dizionario Biografico degli Italiani*, 6 (Rome, 1964), 729–30; Irigoin, 'Manuscripts italiotes et traductions latines de traités scientifiques et techniques', 607–11.

De natura puerorum.¹⁷¹ Most of the editions of his translations are partial, and the translation of Hierocles has not yet been edited.¹⁷²

Since Bartholomew refers to Manfred as *rex*, the translation may be dated to the period of Manfred's reign. Although overshadowed by the reputation of his father Frederick II, Manfred was also a patron of philosophy and the sciences. He is known to have sent a gift of manuscripts of the works of Aristotle to the university students of Paris, accompanied by a letter praising the skills of the men who had translated the texts from Greek into Latin:

Volentes igitur, ut reverenda tantorum operum senilis auctoritas iuvenescat, ea per viros electos et utriusque lingue prolatione peritos instanter duximus verborum fideliter servata virginitate transferri.¹⁷³

Desiring, therefore, that the revered ancient authority of so many works be made young, we ordered that they immediately be translated by selected men, experienced in the use of both languages, with the purity of their words faithfully preserved.

And the incipits of the translations dedicated to him by Bartholomew of Messina describe Manfred as *amator scientiae*.

The presence of a veterinary manual among the other scientific works translated by Bartholomew is not surprising: the translations made from Greek and Arabic in the so-called Renaissance of the twelfth century were primarily of secular texts, scientific and philosophical works.¹⁷⁴ Yet we may wonder, given that a manual of horse-medicine had recently been composed in Latin by Giordano Ruffo,¹⁷⁵ why Manfred commissioned the translation of

¹⁷¹ A.-M. Ieraci Bio, 'La trasmissione della letteratura medica greca nell'Italia meridionale fra X e XV secolo', A. Garzya (ed.) *Contributi alla cultura greca nell'Italia meridionale, Hellenica et Byzantina Neapolitana*, 13 (Naples, 1989), 151 f.

¹⁷² The anonymous text, partly corresponding to Hierocles, in Vat. Reg. lat. 1010 is edited in the thesis of A. Damico, 'Un'anonima traduzione latina del trattato di veterinaria di Ierocle nel cod. Vat. Reg. Lat. 1010: Testo critico, Traduzione e Commento' (Catania 2000–1). The incomplete text in Par. fr. 20167 is translated into German in the veterinary thesis of M. Gunster, 'Studien zu der vom Magister Bartholomäus de Messina durchgeführten lateinischen Übertragung der griechischen Hippiatrica-Kapitel des Hierocles' (Hanover, 1974).

¹⁷³ Seligsohn, *Die Übersetzung der ps.-aristotelischen Problemata*, 6.

¹⁷⁴ This interest in philosophy and science is reflected in the titles of the books available in Sicily listed by Henricus Aristippus in the preface to his translation of Plato's *Phaedo* (possibly addressed to Robert of Cricklade, chancellor of Oxford in 1159, and prior of St Frideswide's monastery); cf. C. H. Haskins, 'Further Notes on the Sicilian Translators of the Twelfth Century', *Harvard Studies in Classical Philology*, 23 (1912), 162–4; V. Rose, 'Die Lücke im Diogenes Laertius und der alte Übersetzer', *Hermes*, 1 (1866), 387 ff.; L. Minio-Paluello, *Phaedo interprete Henrico Aristippo* (London, 1950), 89–90.

¹⁷⁵ On Ruffo, see Fischer, 'A Horse, a horse', 128 ff., J.-L. Gaulin, 'Giordano Ruffo e l'arte veterinaria', in P. Toubert and A. Paravicini Bagliani (eds.), *Federico II e le scienze* (Palermo, 1994), 424–35; and the edition by H. Molin, *Jordani Ruffi Calabrensis Hippiatria* (Padua, 1818); also J. Zahlten, 'Die "Hippiatria" des Jordanus Ruffus: Ein Beitrag zur Naturwissenschaft am Hof Kaiser Friedrichs II', *Archiv für Kulturgeschichte*, 53 (1971), 20–52.

a similar Greek text. One answer may lie in Ruffo's disgrace: he was imprisoned and blinded for treason against Manfred in 1256.¹⁷⁶ The treatise of Hierocles may have been chosen because it was free of treacherous associations. But the homonymy of its author with the Neoplatonic philosopher, as well as his references to Aristotle and other classical authors, may also have contributed to the interest of his text.

Of course, Hierocles' treatise may simply have been conveniently at hand in the royal library. Unfortunately, Bartholomew gives no indication of the source of the Greek manuscript from which his translation was made. It may have belonged to his patron: Manfred had connections with the Greek east through his own marriage and that of his sister Constance-Anna (his nephew by marriage was Theodore II Lascaris, emperor of Nicaea, who had a strong interest in science and philosophy);¹⁷⁷ he would have been able to ask for Greek manuscripts, or might have received them as gifts.¹⁷⁸ Westerners were able to acquire manuscripts at Constantinople: Moses of Bergamo, the grammarian, poet, and translator who participated in the theological debate of 1136, laments, in a letter to his brother, the loss, in a fire, of his collection of Greek books, worth three pounds of gold.¹⁷⁹ Burgundio of Pisa, who made Latin versions of Galen and the *Geoponica*, was also one of the translators at the debate in 1136; on his way back from Constantinople he stopped in Messina.¹⁸⁰

¹⁷⁶ According to Saba Malaspina; Gaulin, 'Giordano Ruffo', 426. Nevertheless Ruffo's treatise exists in very many copies, as well as translations into Italian, Sicilian, and French: see P. Delprato, *La mascalcia di Lorenzo Rusio, volgarizzamento del secolo XIV* (Bologna, 1867); G. de Gregorio, 'Notitia di un trattato di mascalcia in dialetto siciliano del secolo XIV', *Romania*, 33 (1904), 368–86; B. Prévot, *La science du cheval au moyen âge: Le Traité d'hippiatrie de Jordanus Rufus* (Paris, 1991).

¹⁷⁷ B. Berg, 'Manfred of Sicily and the Greek East', *Byzantina*, 14 (1988), 263–89.

¹⁷⁸ The preface to the anonymous translation of Ptolemy's *Almagest* (executed in Sicily around 1160) states that the manuscript from which the translation was made had been brought to Palermo by Henry Aristippus as a gift from the Greek emperor; Eugenius of Palermo translated into Latin the prophecy of the Erythraean Sibyl from a copy 'de aerario Manuelis imperatoris eductum'. See C. H. Haskins and D. P. Lockwood, 'The Sicilian Translators of the 12th Century and the First Latin Version of Ptolemy's *Almagest*', *Harvard Studies in Classical Philology*, 21 (1910), 84 f.; Haskins, *Studies in the History of Mediaeval Science* (Cambridge, Mass., 1927), 191. Haskins identifies this embassy as having taken place in 1158, and notes that the choice of an astronomical text as a gift is in keeping with Manuel's well-known interest in the study of the heavens. The manuscript brought by Aristippus has been identified as Marc. gr. 313; G. Derenzini, 'All'origine della tradizione di opere scientifiche classiche: vicende di testi e di codici tra Bisanzio e Palermo', *Physis*, 8 (1976), 99–100.

¹⁷⁹ F. Pontani, 'Mosè del Brolo fra Bergamo e Costantinopoli', in F. Lo Monaco and C. Villa, *Maestri e traduttori bergamaschi fra medioevo e rinascimento* (Bergamo, 1998), 20–2.

¹⁸⁰ P. Classen, 'Burgundio von Pisa: Richter, Gesandter, Übersetzer', *Sitzungsberichte der Heidelberger Akad. der Wiss., Philos.-Hist. Kl.* (1974), 85 ff.

Bartholomew's translations are *ad verbum*, according to the convention of his day. Roger Bacon, while praising the translations of Robert Grosseteste, alludes to Bartholomew contemptuously as 'Manfred's translator':

alii vero qui infinita quasi converterunt in latinum, ut Gerardus Cremonensis, Michael Scotus, Alvredus Anglicus, Hermannus Alemanus et translator Meinfredi nuper a domino rege Carolo devicti, hi presumpserunt innumerabilia transferre, sed nec scientias nec linguas sciverunt, etiam non latinum. nam in locis quasi innumerabilibus ponunt linguam maternam.¹⁸¹

The others, who converted virtually infinite amounts into Latin, such as Gerard of Cremona, Michael the Scot, Alfred the Englishman, Herman the German, and that translator of Manfred's (who was recently defeated by lord King Charles)—they presumed to translate innumerable things, but they knew neither sciences nor languages, not even Latin. For in virtually innumerable places they left in place the original language.

A translation *ad verbum* is, of course, more effective in 'bringing the reader to the original'.¹⁸² For example, Bartholomew's translation of the *Physiognomonica* is so close to the Greek that in many places his Latin does not make sense, yet for this reason it may be used to emend the Greek text.¹⁸³ It has also been shown by L. Minio-Paluello that patterns in Bartholomew's rendering of Greek particles in Latin are scrupulously consistent, so that an anonymous translation of the pseudo-Aristotelian treatise *De mundo* may be attributed to his hand.¹⁸⁴ Hierocles' use of particles is particularly striking in his prooimia. In these passages (from a quick glance at the manuscripts) we may discern a number of the renderings of particles identified by Minio-Paluello as typical of Bartholomew: *δέ/autem*, *ἔτι/amplius*, *οὖν/igitur*, *ἤ/aut*, *τε* omitted or as *autem*, *οἱ μὲν...οἱ δέ* as *illi quidem...qui autem*. Some of Hierocles' more exuberant particles are conveyed with unwieldy combinations in Latin (e.g. *φέρε οὖν ἐπειδή* becomes *igitur quoniam quidem*) others such as *γε μὴν* are often omitted. We may perhaps see some evidence of patriotism in Bartholomew's substitution of Sicilian horses for the Iberians in Hierocles' list of breeds. And, with the omission of some of the references to Athenian topography and other rhetorical ornaments, greater emphasis is accorded to the quotations from Aristotle.

¹⁸¹ *Fr. Rogeri Bacon Opera quaedam hactenus inedita*, vol. I, ed. J. S. Brewer (London, 1859), 91.

¹⁸² S. Brock, 'Aspects of Translation Technique in Antiquity', *CQ* 20 (1979), 75 ff.

¹⁸³ Foerster, *Scriptores physiognomonici* (above, n. 169), pp. I-LI.

¹⁸⁴ L. Minio-Paluello, 'Note sull'Aristotele Latino Medievale, III: I due traduttori medievali del *De Mundo*: Nicola Siculo (Greco) collaboratore di Roberto Grossatesta e Bartolomeo da Messina', *Rivista di Filosofia Neo-Scolastica*, 42 (1950) (repr. in *Opuscula: The Latin Aristotle* (Amsterdam, 1972), study 7), 112-13.

Although they are both clearly related to the Greek text of Hierocles, Bartholomew's translation differs from the Italian text both in content and in organization. A glance at the contents of each text shows that although the majority of chapter-headings are common to both the Latin and the Italian, they appear in a completely different order in each version. In the Italian, the chapter-headings match those of the Greek RV recension, and are in the same order as the chapters of the B recension. The Latin bears a superficial resemblance to RV in that it consists of just over a hundred chapters (numbered differently in the various manuscripts) divided into two books of roughly the same length, each beginning with a prooimion. After the prooimion, book I begins with a chapter on fever—but there the similarity ends. The distribution of material within the books is different: in the Latin, book I is devoted primarily to the grave diseases, and book II to accidents, including sores, wounds, bites, and stings. In the Latin, the division between the two books occurs between the chapters *De flegmone oculorum* and *De scaldature quae sit in dorso equi*. The Latin translation contains a certain amount of material absent from RV, and does not contain the double chapters on scorpion-stings and hair-loss. At the end of book II are several chapters made up of recipes for various drugs, classified according to their action as caustic, emollient, etc.; these do not appear in RV or the Italian translation. Bartholomew's text also contains a number of chapters that have no match in any of the existing Greek texts attributed to Hierocles, for example *De elephantia*, and *De epilepsia*, as well as the final chapter, entitled *Disciplina Abscyrthi de probatione equorum*.

What Greek text was the basis for Bartholomew's translation? The translation pre-dates the R and V manuscripts, which both belong to the fourteenth century; furthermore, the text is not illustrated, nor does it appear in the company of the *Epitome*, although several copies of a Latin translation of the *Epitome* do exist.¹⁸⁵ The other possibilities are that Bartholomew excerpted material from a manuscript of the *Hippiatrica*, or that he worked from a copy of Hierocles' treatise preserved independently in another form. Would he have taken the initiative to piece together excerpts from the *Hippiatrica*? Or was he working from a damaged manuscript? The phrase *in ordine perfecto* in the incipit may refer to a rearrangement of the text.¹⁸⁶ As we have seen, quite a few cross-references from Hierocles' treatise are preserved in the *Hippiatrica*. Their evidence shows that a rearrangement of the chapters has definitely been effected in the Latin version. The placement of fever as the first subject seems

¹⁸⁵ Fischer, 'A Horse, a horse', 132–3.

¹⁸⁶ On interest in *ordinatio* in the 13th c., see Parkes, 'The Influence of the Concepts of *Ordinatio* and *Compilatio*', 123 ff.

to contradict the evidence of M1039.¹⁸⁷ The chapters on colic and diarrhoea, in that order in the Greek, are inverted. Snakes, scorpions, and spiders were treated in that order in the Greek; in the Latin, scorpions come first. The text of Bartholomew's translations may hold more clues about the origin of RV than about the original text of Hierocles.

¹⁸⁷ Fischer, 'A Horse, a horse', 134.

Hippocrates

THE identity of the veterinary author Hippocrates, masked by the famous name, remains obscure,¹ and his text has received attention only as a spurious annexe to the *Corpus Hippocraticum*.² Yet Hippocrates speaks very directly to the reader, in an almost colloquial style. His treatise, in contrast to the artifice of Apsyrtus' writing, the precision of Theomnestus, and the eloquence of Hierocles, provides evidence of veterinary language at the lower end of the literary scale. The contrast in style is particularly evident because in content, Hippocrates' treatise is very similar to the other manuals in the *Hippiatrica*. Although he does not name any of his sources, it is clear that Hippocrates drew upon the Cassius Dionysius–Mago tradition, without depending, as far as one can tell, on any other known author as an intermediary.

HIPPOCRATES' TEXT

124 excerpts are attributed to Hippocrates in the M recension.³ The text is presented as problematic in the Teubner edition, with many corrections of verb forms, conjectures of lacunae and additions of explanatory verbs or connective particles. But the treatise may simply have been written in an unpolished style. Hippocrates' style was evidently repugnant to the editor of B, who not only included fewer than half of the excerpts known from M, but subjected them to thorough editing. The text of B is so different from that in

¹ Oder–Hoppe, *CHG* II pp. xi–xii; Björck, 'Zum *CHG*', 63.

² J. A. van der Linden, *Magni Hippocratis Cei... Opera omnia*, vol. II (Leiden, 1665); P. A. Valentini, 'Ἱπποκράτους ἱππιατρικά. Hippocratis veterinaria Latine et Italice (Rome, 1814), reprints van der Linden's text; see Oder, 'De hippiatricorum codice Cantabrigiensi', 59 n. 3.

³ S. Lazaris, in 'Deux textes grecs hippocratiques pseudo-Hippocratiques: Remarques et considérations', I. Garofalo et al. (eds) *Aspetti della Terappia nel Corpus Hippocraticum, Atti del IX^e Colloquio Internazionale Hippocratica, Pisa 25–29 sett. 1996* (Florence, 1999), pp. 479–82, attributes only 36 excerpts to Hipp., but accepts the one falsely attributed to Hipp. in the 10th-c. recension of the *Geoponica*.

M that the editors of the *CHG* depart, in some cases, from their convention of giving readings from M in the apparatus to B, and print each text separately.⁴

Other veterinary treatises were falsely attributed to the ‘father of medicine’, most notably the *Epitome* in RV. Another veterinary treatise attributed to ‘Ipocras Indicus’, and translated from Arabic into Latin by Moses of Palermo, has parallels with the Greek texts, but is not discernibly related to the Hippocrates of the *Hippiatrica*.⁵ Ibn al-‘Awwām refers repeatedly to ‘Hippocrates the veterinarian’ in the chapter on horses of his agricultural compilation;⁶ as Björck has shown, the citations have parallels in excerpts from Apsyrtus, Hierocles, and Theomnestus, as well as in the Latin ‘Ipocras Indicus’; and do not appear to be quoted from the Hippocrates of the *Hippiatrica*.⁷

CHARACTER OF THE TEXT

Hippocrates writes in the first person, but does not make any allusion to himself. He seems to have been a practitioner, but says nothing of the context in which he practised. His patients are horses, mules, and other beasts of burden; the causes of their ill-health are described without specificity as running, exhaustion, or being ridden (δρόμος, κόπος, ἐλασία).⁸ Two of Apsyrtus’ letters, one on eye problems and one on breeding are addressed to Ἱπποκράτης ἵππιατρός;⁹ but, as Oder has pointed out, there is no evidence that the two horse-doctors by the name of Hippocrates might be the same man.¹⁰ Neither Hippocrates’ recommendations for breeding nor any of his seven eye-remedies contain any indication that he might have received the letter, or that he wrote to Apsyrtus asking a question. He does not mention

⁴ πρὸς θλάσμα M204, *CHG* II p. 41 = B100.6, *CHG* I p. 346; περὶ εἰλεώδους M624, *CHG* II p. 78 = B126.3, *CHG* I p. 383; περὶ εἰλεώδους M1122, *CHG* II p. 111 = B126, *CHG* I pp. 382–3; περὶ ἀτροφίας M1126, *CHG* II p. 112 = B120, *CHG* I p. 380.

⁵ P. Delprato, *Trattati di Mascalcia attribuiti ad Ippocrate tradotti dall’Arabo in Latino da maestro Moisè da Palermo, Volgarizzati nel secolo XIII* (Bologna, 1865). K.-D. Fischer, ‘Moses of Palermo: Translator from the Arabic at the Court of Charles of Anjou’, *23e Congrès international d’histoire de la médecine*, Actes, vol. I (Asnières, 1983), 278–81 of which the author kindly gave me a copy. A list of manuscripts with titles and incipits in P. Kibre, ‘Hippocrates Latinus: Repertorium of Hippocratic Writings in the Latin Middle Ages V’, *Traditio*, 35 (1979), 293–4.

⁶ Tr. Clément-Mullet, ch. XXXVIII; cf. Wellmann, review of *CHG* I, *Gnomon*, 2 (1926), 238.

⁷ ‘Griechische Pferdeheilkunde in arabischer Überlieferung’, 1–11.

⁸ M990 = B30.6, *CHG* I p. 152; M1121, *CHG* II p. 110; M1135 = B130.8, *CHG* I p. 355.

⁹ περὶ διακοπῆς ὀφθαλμῶν, M349 = B12.1, *CHG* I, p. 74; περὶ συλλήψεως, C10.11, *CHG* II p. 143.

¹⁰ *CHG* II p. xi; Ihm, ‘Die Hippiatrica’, 314.

any places or people or events. Perhaps the most distinctive characteristic of his text is what the editors of the *CHG* described as *sermonis barbaries*.¹¹ In his text may be discerned tendencies toward the language of the *Epitome*. He uses words rejected by the Atticists such as γογγύλη ('turnip'), ψύαι ('loins'), and ἐλλύχνιον ('lamp-wick').¹² Λοιπόν is used adverbially.¹³ He uses conventional loanwords such as στάβλον (*stabulum*)¹⁴ and κάγκελλον, καγκελλοειδῆ (*cancelum*, grille; in the form of a grille)¹⁵ but his language is not characterized by frequent use of Latin words. Certain unusual words are found both in Hippocrates and in the *Prognoseis kai iaseis*: one may mention ζέα, used only in hippiatric texts to mean 'palate';¹⁶ and ἀκροβηματίζει, 'walks on the tips of its feet' which appears as ἀκροβαμονεῖ in the *Prognoseis kai iaseis*, on sprain (στρέμμα).¹⁷ Hippocrates does use throughout his text the technical medical terms ἐγχυματίζω, φλεβοτομίζω, φλεβότομον, as well as specialized verbs used in other medical writers: λειποθυμέω,¹⁸ κακοστομαχέω,¹⁹ χλωροφαγήσαι.²⁰ A preference for compound verbs may also be seen in his consistent use of λειοτριβέω rather than λειόω, χειροτριβέω rather than τρίβω, προαποπλύνω, etc.²¹

An excerpt in M preserves what appears to be the introduction to the treatise:

Ἱπποκράτους περὶ νοσημάτων καὶ τέχνης ἐνδείξεις καὶ ἀσκήσεις ἵππων καὶ ἡμιόνων χωρὶς, ὅσον ὕγρον τοῦ ξηροῦ διαφέρει. τῶν νοσημάτων χωρὶς γράφομεν ἀπάντων, ὥστε εἰδέναι καὶ τὸν ἰδιώτην τὰ σημεία. δείξω δὲ καὶ ἀπὸ τῆς ἰατρικῆς περὶ ἵππων καὶ ὑποζυγίων ἀπάντων.²²

Of Hippocrates, on diseases and science: symptoms and treatments: for horses and for mules separately, as much as the humid is different from the dry. We will write separately of all diseases, so that even a layman may know the symptoms. And I will show everything from the science of medicine about horses and all beasts of burden.

Ἀσκησις seems to refer here to medical practice rather than the training of horses, of which there is no mention in the text. Ἐνδείξεις καὶ ἀσκήσεις may

¹¹ *CHG* II, *ibid*.

¹² γογγύλη M1114, *CHG* II p. 109; ψύαι M992 = B30.12, *CHG* I p. 153 (ψόας in M); ἐλλύχνιον; M204 (altered in B100.6), *CHG* II p. 42; cf. Phrynichus 81, 268, 134.

¹³ M101 = B10.7, *CHG* I p. 60; M265, *CHG* II p. 52.

¹⁴ M323 = B34.18, *CHG* I p. 187 app. ¹⁵ M1120, *CHG* II p. 110.

¹⁶ e.g. Hipp. M1126, *CHG* II p. 112; *Prog.* B1.21, *CHG* I p. 8.

¹⁷ Hipp. M1068, *CHG* II p. 105; *Prog.* B117.7, *CHG* I p. 378.

¹⁸ M1122, *CHG* II p. 111. ¹⁹ M1121, *CHG* II p. 110.

²⁰ M101 = B10.7, *CHG* I p. 60.

²¹ M373 = B11.19, *CHG* I p. 65; M1012 = B130.108; M1013 = B130.109; M1015 = B130.110, *CHG* I p. 421.

²² M1068, *CHG* II p. 104.

be the equivalent of *προγνώσεις καὶ ἰάσεις*. The reference to the layman, *ιδιώτης*, seems to imply that Hippocrates intended his treatise to be accessible to all rather than limited to use by specialists. This low level of science is evident in a lack of attention to physiology, a paucity of references to surgery, and a certain amount of material of introductory nature. Hippocrates asserts that the diseases of the mule differ from those of the horse; Columella similarly explains that whereas most of the medicines mules require are also used for other animals, certain diseases are peculiar to mules alone.²³

After the introduction, the treatise began with a discussion of *ποδάγρα*, lameness. The prominence accorded to *podagra* is paralleled in Aristotle's discussion of the diseases of the horse.²⁴ But Hippocrates' account of the symptoms of the disease echo Columella rather than Aristotle:²⁵

Hippocrates

Ἀρχὴ τῶν νοσημάτων ἡ ποδάγρα. πρῶτον τοῖς ἵπποις καὶ τοῖς ἄλλοις ὑποζυγίοις ἀπὸ ψύξεως καὶ δυσουρίας ὅταν ᾗ ἀπὸ μόχθων ἢ ἐλασίων πολλῶν, ἢ ἐργαζόμενος θερμὸς γένηται καὶ ψυχρὴ ἐξαπίνης ἀφ' ὁδοῦ, ἢ ἀπὸ ψύχους ἢ ἀπὸ φλέγματος.

The beginning of sicknesses is *podagra*. It happens in horses and other beasts of burden from chill and dysuria, when it has had many burdens or much riding, or when, hot from working, it becomes chilled suddenly, or from chill or from phlegm.

Columella

Plerumque iumenta morbos concipiunt lassitudine et aestu, nonnumquam et frigore et cum suo tempore urinam non fecerint; vel si sudant et a concitatione confestim biberint vel si, cum diu steterint, subito ad cursum extimulata sunt.

Beasts of burden generally fall ill from fatigue or from the heat, and sometimes also from the cold and when they have not passed urine at the proper time, or if they sweat and then drink immediately after having been in violent motion, or when they are suddenly spurred into a gallop after they have stood for a long time.

Hippocrates' chapter on bloodletting begins with one of the rare instances, in the *Hippiatrica*, of theoretical discussion.

ἄριστον εἰδέναι, πότε δεῖ τῶν ἵππων αἷμα ἀφαιρεῖν καὶ ἐν αἷς ὥραις καὶ ἀπὸ ὅσων φλεβῶν, καὶ διαγινώσκειν τὰς φύσεις καὶ τὰς ἐξέεις.

οἱ μὲν γὰρ εὖ διακείμενοι, οἱ δὲ ἰσχυροί, οἱ δὲ νοσεροί, καὶ τὸ αἷμα οὐκ ἔστι τὸ αὐτὸ οὐδὲ ὅμοιον τοῖς πάθεσι πᾶσιν, ἀλλὰ διαφέρει τοῖς χρώμασι πρὸς ἕκαστον πάθος.

τὸ μὲν γὰρ ἀπὸ τῶν εὖ ἐχόντων ἵππων αἷμά ἐστιν εὐκρατον καὶ πολὺ καὶ ξανθόν. ἀφαίρει τοίνυν, ἵνα μὴ πάθος ἐπιστῇ. τὸ δὲ τῶν μαλακιζομένων αἷμά ἐστι ποικίλον καὶ ἀφρωδέστατον, τὸ δὲ τῶν κριθιώντων αἷμά ἐστι μελανώδες καὶ ἰζώδες . . .

²³ VI.38.1.

²⁴ HA (VII) VIII.604b.

²⁵ M1068, CHG II p. 104; Col. VI.30.3.

It is best to know when it is necessary to let blood from horses and in which seasons and from which veins, and to recognize its natures and conditions.

Some are in good shape, others are thin, or sickly; and their blood is not the same, nor is it similar in all diseases, but differs according to colour for each disease.

The blood of horses in good condition is well mixed and abundant and pale. Therefore let blood, lest a disease attack. The blood of weak ones is many-coloured and very foamy, and the blood of those with laminitis is darkish and sticky.

Hippocrates continues with some practical advice:

ἐπειδὴ ἐληλύθαμεν τὸν περὶ αὐτοῦ λόγον, λοιπὸν ἀρξώμεθα, πῶς δεῖ τοῦ ἵππου αἷμα ἀφαιρεῖν. αὐχενίζειν δεῖ, τὸν δὲ τόπον περίβαλλε αὐχενιστῇρι περὶ τὸν τράχηλον καὶ προσανατείνειν, ἕως ἂν προσαναστῶσιν αἱ φλέβες· μὴ μέντοι καθὺς τὸ φλεβοτόμον κατὰ βάθος, ἐπεὶ οὐ δυνηθείης στήσαι τὸ αἷμα εὐχερώς.²⁶

Since we have come to a discussion of this, well, we shall begin with how one ought to let [blood] from horses. One ought to use a tourniquet: place the tourniquet around the area around the neck and apply tension until the veins stand out. Do not insert the lancet too deep, since the blood will not be able to stop easily.

None of the other authors explain basic procedures in this way, evidently taking for granted a familiarity, on the part of their readers, with medical techniques. Another procedure described by Hippocrates is worthy of note, namely the use of the mandibles of ants to suture a wound:²⁷

κνίπας ἄφες ἐπιλάβεσθαι τοῦ ἐντέρου καὶ ἀπόκοψον τὰς κεφαλὰς καὶ ἄφες φύειν, εἴτα ῥάπτε καὶ ὑπόπλασσε κενταύριον.

Let ants take hold of the intestine and cut off the heads and let them stick, then suture and poultice with centaur.

This practice was reported in Smyrna c.1890, employed by a Greek barber to close a head wound.²⁸

²⁶ M101 = B10.7, *CHG* I pp. 59–60.

²⁷ M591, *CHG* II p. 75.

²⁸ 'Mr. Miltiades D. Issigonis, a Greek gentleman from Smyrna, now residing in London... fell from his horse in Smyrna about six years ago, and received a severe but clean cut of an inch or rather more in length on the forehead above the right eye. In accordance with the custom of the country he went to a Greek barber to have the wound dressed, and the barber employed at least ten living ants to bite the two sides together. Pressing together the margins of the cut with the fingers of the left hand, he applied the insect by means of a pair of forceps held in the right hand. The mandibles of the ant were widely open for self-defense, and as the insect was carefully brought over the wound, it seized upon the raised surface, penetrated the skin on both sides, and remained tenaciously fixed while the operator severed the head from the thorax, so leaving the mandibles grasping the wound.' R. M. Middleton, 'On a Remarkable Use of Ants in Asia Minor', *Journal of the Linnaean Society*, 25 (1896), 405, quoted in E. W. Gudger, 'Stitching Wounds with the Mandibles of Ants and Beetles: A Minor Contribution to the History of Surgery', *Journal of the American Medical Association*, 84 (1925), 1861–4. The same recommendation for suturing intestines is found in the Sanskrit *Sushruta Samhita*; see the discussion in G. Majno, *The Healing Hand: Man and Wound in the Ancient World* (Cambridge, Mass., 1975), 304–9, with pl. 7.2.

The greatest emphasis, in Hippocrates' text, is on conditions of the foot, the eyes, and the digestive system. As indicated in the preface, remedies for mules are given separately:

τὰ αὐτὰ ἡμίονος οὐ πάσχει ἵππῳ οὔτε ἄρρενι οὔτε θηλείᾳ, ἀλλ' ὅσῳ περ καὶ ξηρόν [ῥᾶον] ἔστι τὸ σῶμα καὶ αἱ μήτραι ἀποκέκλεινται ἀπὸ ξηρασίας σαρκός, τοσούτῳ < ῥᾶον > καὶ τὰ νοσήματα περιμένουσιν.²⁹

A mule does not suffer the same things as a horse, neither male nor female, but just as much as the body is dry and the wombs are closed up from dryness of flesh, so much more easily do they endure sicknesses.

The section on mules came after that on horses, since it contains a reference to *τομὰς τὰς πρότερον εἰρημένους ἐν ταῖς τοῦ ἵππου*,³⁰ 'the surgery mentioned earlier among those of the horse'. Some treatments are recommended for either horses or mules,³¹ or for any beast of burden.³² An aromatic remedy for cows (*ἀρωματικὴ βοϊκὴ*) is differentiated from one for horses (*ἀρωματικὴ ἵππικὴ*).³³ The latter is frequently called for in treatments.³⁴ The cow remedy calls for six ingredients: costum, centaury, wormwood, orris-root, common celery, and saffron-residue (*κόστος, κενταύριον, ἀψίνθιον, ἴρις, σέλινον κοινόν, κροκόμαγμα*); the horse remedy, on the other hand, is composed of seventeen, including a number of imported (more expensive) spices: cassia, cinnamon, ginger, costum, amomon, calamus, sweet rush blossom, saffron-residue, saffron, myrrh, cinnamon-wood, white pepper, opopanax, gentian, Illyrian orris-root, birthwort, and peony (*κασία, κιννάμωμον, ζίγγιβερ, κόστος, ἄμωμον, κάλαμος ἀρωματικός, σχοίνου ἄνθος, κροκόμαγμα, κρόκος, σμύρνα τρωγλίτις, ξυλοκιννάμωμον, πέπερι λευκόν, ὀποπάναξ, γεντιανή, ἴρις Ἰλλυρικὴ, ἀριστολοχία, παιονία*).

A few cross-references exist in the excerpts: for example, 'the symptoms that are written above' (*τοῖς ἐμπρόσθεν γεγραμμένοις σημείοις*),³⁵ 'treat by binding fast, as for other cauteries' (*θεράπευε δὲ ὡς καὶ τὰ λοιπὰ καυτήρια ἀποδεσμεύων*).³⁶ An indication of the order of chapters is preserved in a reference to abrasion (*παράτριμμα*) of the fetlock, which must have been treated after sprains (*στρέμματα*): 'poultice in the same manner as for sprains' (*κατάπλαττε τῷ αὐτῷ τρόπῳ ὧς καὶ τὰ στρέμματα*).³⁷ Several prescriptions

²⁹ M1140, *CHG* II p. 113.

³⁰ M1140, *CHG* II p. 114.

³¹ M1136, *CHG* II p. 112–13.

³² ἵππος ἢ τι ἄλλο τῶν ὑποζυγίων M908 = B77.4, *CHG* I p. 294; M1121, *CHG* II p. 110.

³³ M1145, *CHG* II p. 114; M1143 = B130.156, *CHG* I p. 430.

³⁴ M539 = B5.5, *CHG* I p. 42; M109 = B20.10, *CHG* I p. 100; M990 = B30.6, *CHG* I p. 152; cf. *CHG* II p. xi.

³⁵ M1139, *CHG* II p. 113.

³⁶ M908 = B77.4, *CHG* I p. 294.

³⁷ M1120, *CHG* II p. 110.

call for the aromatic preparation (σκευασία ἀρωματική) without indication of where in the treatise the recipe for that preparation was located. (It is toward the end of both M and B.)³⁸ Series of excerpts are preserved for several subjects: wounds, eyes, tetanus, digestive ailments, bites, foot ailments, and the dyeing of a horse's coat. 'Sympathetic' remedies are prescribed, but there are no magical remedies in what is preserved of the treatise, although a spell may have been lost from an excerpt which ends καὶ ἐξείποις... 'and you should declare...'³⁹

The excerpts are consistent in structure. Subjects are introduced in simple conditional phrases:

ἐὰν ἄραι θέλῃς μώλωπας...

If you want to take away bruises...

ἐὰν δὲ μὴ ἐσθίῃ ἵππος...

If a horse does not feed...

ἐὰν ἵππος τραχὺς ᾦ ἢ ἡμίονος...

If a horse or a mule is shaggy...

ἐὰν φάγῃ ἐλλέβορον ἵππος...⁴⁰

If a horse eats hellebore...

The symptoms, σημεῖα, are not uniformly listed; aetiology is rarely indicated, though occasional reference is made to humoral theory, for example μανία or madness is attributed to bile.⁴¹ Instructions are nearly always given in the second person: 'Look and you will find that the palate is swollen' (σκοπεῖ καὶ εὐρήσεις τὴν ζέαν μετέωρον);⁴² 'your mixture should be the size of a walnut' (ἔστι δέ σοι τὸ σύνθεμα ὅδον καρύου τὸ μέγεθος).⁴³

Often—especially in the case of internal ailments—the symptoms are given, but the prognosis is described as hopeless, and no treatment is recommended.

ἡμέραν δὲ πλείω οὐ ζῇ (it will not live more than a day).

ὁ τοιοῦτος οὐ ζήσκει πλεῖον ἡμέρας⁴⁴ (such a one will not live more than a day).

These conditions are described as curable by the other authors in the *Hippiatrica*; Hippocrates' relation to those authors is, however, not entirely clear.

³⁸ M1143 = B130.156, *CHG* I p. 430.

³⁹ M588, *CHG* II p. 74; cf. Heim, *Incantamenta*, p. 469.

⁴⁰ M1124, M1126, M1136, M1137, *CHG* II pp. 112–13.

⁴¹ M311, *CHG* II p. 54.

⁴² M1126, *CHG* II p. 112; cf. Col. VI.14.2.

⁴³ M109 = B20.10, *CHG* I p. 100.

⁴⁴ Heart trouble, M429, *CHG* II p. 62; liver trouble, M547, *CHG* II p. 71.

SOURCES

Hippocrates does not mention any sources, or indeed any other names, in what we have of his treatise.⁴⁵ Comparison of his text with the other works in the *Hippiatrica* reveals numerous parallels with Apsyrtus; for this reason, Björck places Hippocrates after Apsyrtus in date.⁴⁶ On the other hand, Oder and Hoppe suggest that Hippocrates wrote before Apsyrtus, since he often recommends procedures that Apsyrtus condemns, for example, rubbing the bladder to relieve dysury,⁴⁷ the use of cautery for sprains of the knee and fetlock,⁴⁸ the treatment of madness (μανία) by shutting the horse in a dark and quiet place.⁴⁹ He may, of course, have written after Apsyrtus, but without knowledge of his work. Hippocrates is not dependent upon Apsyrtus in these cases, but seems to draw from a common source. Hippocrates' advice is often found in Eumelus and Pelagonius as well, as in the case of the cure for madness:⁵⁰

Hippocrates

Σκοτοποιήσον εἰς
τὸν στάβλον καὶ ἔα
ἡσυχάζειν, καὶ
πορευέτω μηδεὶς
μήτε θόρυβον μήτε
ψόφον ποιείτω εἰς
τὸν τόπον

Darken the stable
and let it be quiet,
and let no one ap-
proach nor disturb-
ance nor sound be
made in the area.

Eumelus

Καὶ ἐν τόπῳ
σκοτεινωτέρῳ
κατάκλειστον ἔχε,
μέχρις οὗ τροφῆς
ὀρεχθῇ

And keep it
confined in a very
dark place until it
develops an appe-
tite for its feed.

Pelagonius

Primum omnium
loco tenebroso stet
et mollibus cibis
recreandus

First of all let it
stand in a shadowy
place and let it be
restored with soft
foods.

Apsyrtus

Λέγεται δὲ καὶ ἐν
ἡσυχία ἐστάναι
αὐτοὺς καὶ τόπῳ
σκοτεινῷ. ὃ ἡμεῖς
ποιήσαντες
ἐπιτενωμένους
σχῶμεν μᾶλλον καὶ
διαφονοῦντας

It is said that they
ought to be made to
stand in quiet and
in a dark place—
having done this,
we had them suffer
more, and die.

⁴⁵ *κουλλούριον* (sic) *Λυκίνου ὀφθαλμικόν* (M376, *CHG* II p. 58), which appears to cite a source, is the reading of Oder and Hoppe: the lemma in M reads *λυκίν*, and the entry in the table of contents of M is *λύκειον*. The plant *λύκειον* was widely used in ophthalmic remedies, cf. Diosc. I.100.

⁴⁶ 'Zum *CHG*', p. 63.

⁴⁷ M1122, *CHG* II p. 111 = B126, *CHG* I pp. 382–3; cf. Aps. M59 = B33.3, *CHG* I p. 165.

⁴⁸ M897 = B117.4, *CHG* I p. 377; cf. Aps. M71 = B96.2, *CHG* I p. 327.

⁴⁹ *CHG* II p. XI.

⁵⁰ Hipp. M312 (altered in B101.8), *CHG* I p. 350 app.; Eum. M309 = B101.6, *CHG* I p. 349; Pel. Lat. 405, Aps. M307 = B101.1, *CHG* I p. 347.

These relationships may be explained by supposing that Hippocrates uses a source common to Eumelus and Pelagonius (and in several cases the *Mulo-medicina Chironis*), and also used, though in a more critical spirit, by Apsyrtus.

There are a number of parallels between Hippocrates' treatments for colic and dysury, and Apsyrtus' long chapter on colic and dysury, a chapter in which Apsyrtus repeatedly refers to unnamed sources.⁵¹ Hippocrates twice recommends administering hoof-filings from the forelegs, the remedy attributed to Mago by Apsyrtus,⁵² which may indicate that his source is related to Diophanes–Cassius Dionysius. Other parallels link Hippocrates with the agricultural compilations as well: for instance, a treatment for leeches echoes Anatolius:⁵³

Hippocrates

Ἐὰν βδέλλαν καταπίῃ, ὑπτιάσας ἐλαίῳ
θερμῷ ἐγχυμάτιζε διὰ κέρατος.

If it should swallow a leech, make it lie supine and drench through a horn with warm oil.

Anatolius in Geoponica XVI

Ἐὰν βδέλλαν καταπίῃ, ἀνακλιθέντι ὑπτίῳ
ἐλαιον θερμὸν μὲτὰ οἶνου διὰ κέρατος
ἐγχυτέον.

If it should swallow a leech, let warm oil mixed with wine be poured in through a horn while it is reclining supine.

The treatment recommended by Hippocrates for twisted intestine (στροφός) is also the same as that of Anatolius:⁵⁴

Hippocrates

Θεραπεύεται δὲ λουτρῷ θερμῷ καὶ
σκεπάσμασι διὰ ἐπιβλημάτων οὖν
ἐγχυματισμοὺς δίδου διὰ τε τοῦ στόματος ἢ
ῥωθῶνων συνιεμένων (ἀνιέμενον vel
συντιθέμενον edd.) διὰ σμύρνης γο. ε΄
ἡρομένων οἶνῳ παλαιῷ κοτύλαις ἕξ . . .

It is treated with a warm bath and by covering it with blankets. Administer through the mouth or the nostrils drenches composed of 5 grams of myrrh united with 6 cotylae of old wine . . .

Anatolius

Ἵππον στροφούμενον ἰάσῃ, ὕδατι θερμῷ
λούσας αὐτὸν καὶ συγκαλύψας ἱμάτιοις,
ἔπειτα σμύρνης δραχμὰς εἰς οἶνου παλαιοῦ
κοτύλαις 5' . . . ἐγχυματίσων

You will cure a horse with a twisted intestine, bathing it with warm water and covering it up with blankets, next drench . . . with 5 drachmae of myrrh and 6 cotylae of old wine.

⁵¹ M59 = B33.3, *CHG* I p. 165.

⁵² M587 = B45.3, *CHG* I p. 217; M624, *CHG* II p. 78 = B126.3, *CHG* I p. 383; cf. Aps. M59 = B33.8, *CHG* I p. 168 (δυσουρία), as pointed out by Oder, *CHG* II p. XI.

⁵³ Hipp. M529, *CHG* II p. 69; *Geop.* XVI.19.

⁵⁴ Hipp. M587 (altered in B45.3), *CHG* I p. 217 app.; Anat. M576 = B45.5, *CHG* I p. 218; *Geop.* XVI.9.1–2. Myrrh and wine are recommended by Columella for bile, VI.30.9.

Hippocrates' remedy for *καρκινώματα* (tumours, '*karkinomata*'), which calls for a sympathetic application of *καρκίνους ποταμίους* (river-crabs, '*karkinous*'), is the same as that given by Hierocles, who attributes it to Hieronymus.⁵⁵

Hippocrates

Τὼν δὲ καρκινωμάτων ἀρίστη ἐστὶ καὶ ταχίστη ἢ διὰ τοῦ μαλάγματος καὶ τοῦ κωνείου καὶ ῥητίνης καὶ ἰξοῦ καὶ χαλβάνης. ταῦτα πάντα ἐψήσας, χρῶ θερμῷ τῷ βοηθήματι, ἐὰν ὁ τόπος ἐπιδέχεται· εἰ δὲ μή, καταπλάσμασι ξηροῖς ἡπιωτικοῖς⁵⁶ καὶ τηκτικοῖς· ὅσον καρκίνους ποταμίους καύσας καὶ τρίψας ἐπιτίθει μετὰ τρυγὸς ξηρᾶς φύρων τε πίτυος φλοιὸν κεκομμένον καὶ κίσηριν κεκαυμένην καὶ κωνείου σπέρμα καὶ σικύου ἀγρίου τὴν ῥίζαν, κόψας ὁμοῦ μεθ' ὕδατος ψυχροῦ καὶ ὄξους, κατάπλασσε. εἰ δὲ (<...>) ὕδατι ψυχρῷ μὴ πρόσαγε, ἀλλὰ περιπλυνε οἶνω. φαρμάκῳ δὲ χρῶ τρυγίαν λευκὴν καύσας καὶ μολύβδαιναν καὶ χαλκοῦ ἄνθος κεκομμένον καὶ λαβὼν πρὸς ταῦτα κονίας ἀσβέστου τοῖς ἄγαν ξηροῖς χρῶ. τὰ δὲ κύκλῳ ἐλαίῳ ἀπάλειφε. ἐὰν δὲ ἀποκροτύνεται ὁρόβοις καὶ μέλι ἀλειφε.

The best and fastest [treatment] for tumours is through the ointment and the hemlock and resin and mistletoe and galbanum. Boiling up all these, use the remedy hot, if the location permits. And if not, use dessicative, softening, and dissolving poultices, such as: burn and grind river-crabs and apply, mixing with dry wine-lees and cut-up pine-bark and burnt pumice and hemlock-seed and wild cucumber root cut up together with cold water and vinegar, and poultice. And if (<...>) do not put water on it, but wash around it with wine. And use this drug: burning white wine-lees with sulphuret of lead and vitriol cut up, and taking lime-powder in proportion to these, use these very dry things. And anoint them in a circle with oil. If they become hard, anoint with honey and vetch.

Hierocles

Τὰ καρκινώματά φησι δεῖν Ἱερώνυμος τέμνειν, ἐὰν ὁ τόπος ἐπιδέχεται·

εἰ δὲ μή, καταπλάσσειν καρκίνους ποταμίους καύσαντα, καὶ μετὰ ὀξηρᾶς τρυγὸς τρίψαντα καὶ φυράσαντα ἐπιτιθέναι πίτυος φλοιὸν κεκομμένον καὶ ἴριν κεκομμένην καὶ κωνείου σπέρμα καὶ σικύου ἀγρίου ῥίζαν κόψαντα μετὰ ὕδατος ψυχροῦ καὶ ὄξους καταπλάσσειν. ἐὰν μέντοι ἔλκωθῇ, ὕδωρ μὴ προσάγειν, ἀλλὰ πλύνειν οἶνω. φαρμάκῳ δὲ χρῆσθαι μολύβδαιναν καὶ χάλκανθον κεκομμένα, κονία ἀσβέστου μίξαντα ἐξίσσης ξηρᾶς, ἐπιτιθέναι. τὰ δὲ κύκλῳ ἐλαίῳ ἐπαλείφειν.

Hieronymus says to excise tumours, if the location permits.

And if not, poultice with burnt river-crabs, and apply cut-up pine-bark, ground and mixed with dried wine-lees and cut-up iris and hemlock-seed, and root of wild cucumber, cut up and mixed with cold water and vinegar, and poultice. If it becomes infected, do not put water on it, but wash with wine. And use this drug: sulphuret of lead and vitriol cut up, mixed with an equal amount of dry lime-powder, and applied. And anoint them in a circle with oil.

⁵⁵ Hierocles B76.1, Hipp. M1074 = B76.3, *CHG* I pp. 292–3.

⁵⁶ The conjecture of Oder for ἡπιωτικοῖς.

We have seen that other excerpts identified by Hierocles as quotations from his 'Libyan' sources resemble passages common to Pelagonius and Eumelus, and are probably derived from an agricultural source. Further connections with this source, and with other ancient texts on medicine and natural history, may be seen in Hippocrates' chapter on the bite of the shrew-mouse (*μυγαλή*).⁵⁷

Hippocrates

Γίνεται δὲ ἐπὶ πολὺ
τὸ δῆγμα ἐν
ἵπποστασίους, ἐὰν
κατακλιθῇ
συνδύεται ἡ μυγαλή
εἰς τὰς λαγόνας, καὶ
μεταξὺ κινηθέντος
αὐτοῦ παραχθείσα,
δάκνει τὸν τόπον οὗ
γίνεται οἴδημα.
θεραπεύεται δὲ
οὕτως· λαβὼν
μελανθίου λείου
δξύβαφον ἅ μετὰ
οἶνον ἐγχυμάτιζε. ἡ
σκόροδον τρίψας,
καὶ ἅλας καὶ κύμινον
ἴσον ἐκάστου καὶ
οἶνω φυράσας
κατὰ χριε οὖρω, καὶ
γῆς ἐκ τῆς
ἁμαξοτροχίας ἡ
μυγαλὴν τρίψας,
μετὰ οἶνου
ἐγχυμάτιζε κοτ. α'.
ἐὰν δὲ μὴ ἔχῃς
μυγαλὴν, μετὰ
πηλοῦ κεραμικοῦ
πεφυραμένην
κατὰ χριε. ἡ
σελινόσπερμον
καθεψήσας ἐν οἶνω
ἐγχυμάτιζε μετὰ
ἐλαίου. ἡ
κατάκνισον ὀρθῶ

Columella

Nam et vipera et
caecilia saepe cum in
pascuo bos improvide
supercubuit, lacescita
onere morsum
imprimit. Musque
araneus, quem Graeci
μυγαλὴν appellant,
quamvis exiguis
dentibus non exiguam
pestem molitur...
caeciliae morsus
tumorem suppuratio-
nemque molitur; idem
facit etiam muris
aranei, sed illius
sanatur noxa fibula
aenea, si locum
laesum conpungas,
cretaque cimolia ex
aceto linas. mus
perniciem, quam
intulit, suo corpore
luit, nam animal ipsum
oleo mersum necatur
et, cum imputruit,
conteritur, eoque
medicamine quando-
que morsus muris
aranei linitur. vel si
non adest, tumorque
ostendit iniuriam
dentium, cuminum
conteritur... optimum
est ignea lamina

Apsyrtus

Μυγαλή δὲ ἐὰν
δάκῃ, οἰδήματα
γίνεται περὶ τὸν
τόπον σκληρά, καὶ
στένει μικρά
διαλιπών. βοηθεῖται
δὲ κατακεντούμενος
καὶ καταχρίόμενος
κράμβῃ τετριμμένη
μετὰ ὄξους ἢ
ἀψινθίῳ (ὠσαύτως)
ἢ κρομόνις μετὰ
ὄξους ἢ σκορόδοις
ὠσαύτως ἢ ἀγνώ
τριφθείσῃ μετὰ
ὄξους. λέγεται δὲ
καὶ ἐκ τῆς
ἁμαξοτροχίας γῆν
φυράσαντα τῷ ὄξει
καταχρίειν
ὠφέλιμον. ἐὰν δὲ
γέννηται θήλειαν
ὄνον ἔγκυνον οὖσαν
δηχθῆναι ὑπὸ
μυγαλῆς ἐγκύνου,
κίνδυνον ἔχει
διαφωνῆσαι.
ἐπιγίνεται γὰρ
πυρετὸς καὶ αἰσιτεῖ.
καὶ κυκλάμινον δὲ
κατακαύσαντα τὴν
τέφρα ὄξει μίξαντα
τὸ αὐτὸ ποιεῖν.
οὕτω καὶ αὐτὴν δὲ
τὴν μυγαλὴν

Hierocles

Ἐὰν δὲ μυγαλὴ
δακῇ, πύμπραται τὸ
ζῶον ὅλον, καὶ οἱ
ὀφθαλμοὶ
δακρύνουσιν, ἰχώρ τε
ἀποσπάξει ἀπὸ τοῦ
οἰδήματος... τὸν
κονιορτὸν οὖν τὸν
ὑπὸ τῇ τρίψει τῶν
τροχῶν γινόμενον
ὄξει δριμύει δεύσας,
καὶ τὸν δηχθέντα
τόπον νύξας,
πρώτον ἐπίχριε τῷ
πηλῷ. ἔνιοι δέ, ὧν
Ταραντίνος, φασὶ
χρῆναι σκόροδα
κόψαντα ἐπιθεῖναι,
ὑποθυμῖαν τε
ἐλάφου κέρας. φησὶ
γε μὴν Ἀψυρτος
ἄμεινον εἶναι ἐπὶ
τῶν θηριοδῆκτων,
ἅμα τις αἰσθῆται,
διακαίειν τὸν τόπον.
Στρατόνικος δὲ ἐπὶ
μυγαλῆς
συμβουλεύει
κατασχάσαντα τὰ
μάλιστα διωδηκότα,
καταβρέχειν ὄξει
καὶ ἅλατι. τῇ δὲ ἐξῆς
ἡμέρᾳ ροῦσαντα εἰς
ὔδωρ γλυκύ,
κιμωλίαν ὄξει

⁵⁷ *μυγάλη* in M. Hipp. M700 = B87.4, *CHG* I pp. 315–16; Col. VI.17.5–6 (cf. also Pel. L279); Aps. M694 = B87.1, *CHG* I p. 314, Hi. M705 = B87.2, *CHG* II pp. 314–15.

φλεβοτόμῳ
αὐτάρκως τὸν
οἰδηκότα τόπον. ἐὰν
δὲ πλέον γένηται
φλεγμονή, κύκλῳ
καῦσον περιφερεί
καντηρίῳ . . . οὐκ
ἔσται δὲ ἔλκος, ἐὰν
μὴ ἔγκυος οὖσα
δάκῃ.

The bite happens for the most part in the stables. If it lies down, the shrew-mouse is trapped under its flanks. Meanwhile, when it [the horse] moves, disturbed, it bites the place, in which a swelling arises. It is treated in this way: taking 1 oxybaphon of ground nigella, administer with wine as a drench. Or pounding garlic and salt and cumin, the same amount of each, mix with urine and anoint. And pound earth from a wheel-track, or a shrew-mouse, and administer as a drench with a cotyle of wine. If you don't have a shrew-mouse, anoint with diluted potter's clay. Or boiling up celery-seed with wine, administer as drench with oil. Or score the swollen area sufficiently with a straight lancet. If more inflam-

conlectionem
resecare . . . solet etiam
ipsum animal vivum
creta figulari
circumdari, quae cum
siccata est, collo boum
suspenditur.

For an ox while grazing often lies down unaware upon vipers and lizards, which, provoked by its weight, inflict a bite upon it. The shrew-mouse, which the Greeks call *mygale*, though its teeth are small, gives rise to a malady which is far from being slight . . . The bite of a lizard causes swelling and suppuration, as does that of a shrew-mouse, but the injury caused by the former is cured if you puncture the part affected with a brazen pin and anoint it with Cimolian chalk dipped in vinegar. The shrew-mouse atones with its own body for the harm which it has inflicted; for the animal itself is killed by being drowned in oil, and, when it has putrefied, it is crushed and the bite inflicted by the shrew-mouse is anointed with it as a remedy. If this is not available and the swelling shows teeth-marks, cumin is

περιάπτειν.

If a shrew-mouse bites [the animal], hard swellings appear around the place, and it sighs at short intervals. It is helped by being pricked and being anointed with cabbage pounded with vinegar, or worm-wood similarly or onions with vinegar or garlic similarly or agnus castus pounded with vinegar. It is said that to anoint with earth from a wheel-rut mixed with vinegar is beneficial. If it happens that a female donkey is, while pregnant, bitten by a pregnant shrew-mouse, it is in danger of dying. For fever afflicts it and it goes off its feed. And burning cyclamen thoroughly and mixing the ash with vinegar does the same thing. Likewise, to affix the mouse itself as an amulet.

φυράσαντα
καταχρίειν, τὸ δὲ
δῆγμα θεραπεύειν
γλοιῶ, ἕως οὐ
ύγιαίνει.

If a shrew-mouse bites, the whole animal swells up, and the eyes tear, and fluid drips from the swelling . . . therefore wet with sharp vinegar the dust that arises under the grinding of wheels, and having scraped the bitten place, first anoint it with the clay. Some people, Tarantinus among them, say to use cut-up garlic up and apply it, and to fumigate with stag's horn. Apsyrtus, however, says, for those bitten by pests, that it is best, as soon as one notices it, to cauterize the place. Stratonicos advises, for the shrew-mouse, to puncture the most swollen area and to drench with vinegar and salt. And on the following day, have it swim in fresh water, and anoint with Cimolian earth mixed with

mation arises, burn
in a circle with a
round cautery-
iron... there will
not be infection if it
is not pregnant
when it bites.

crushed up... it is best
to cut away the abscess
with a hot iron
plate... There is also a
practice of encasing the
shrew-mouse itself
while still alive in pot-
ter's clay and, when the
clay is dry, hanging it
round the ox's neck.

vinegar, and treat
the bite with salve
until it is healthy.

Columella's use of the Greek word *μυγαλή* points to a Greek text as the ultimate source for the passage.⁵⁸ Hippocrates and Apsyrthus echo Aristotle's observation that the bite of a pregnant mouse is more dangerous because the blisters caused by its bite will burst: τὰ δὲ δῆγματα τῆς μυγαλῆς καὶ τοῖς ἄλλοις ὑποζύγιοις χαλεπά· γίνονται δὲ φλύκταιναι. χαλεπώτερον δὲ τὸ δῆγμα ἐὰν κυοῦσα δάκη· ἐκρήγνυνται γὰρ αἱ φλύκταιναι, εἰ δὲ μὴ, οὐ.⁵⁹ Nicander's explanation that the mouse dies beneath the wheels of a cart (*μυγαλέην, τροχίῃσιν ἐπιθνήσκουσιν ἀμάξης*),⁶⁰ clarifies the origin of the remedy in sympathetic magic. Pliny's account is confused: a pregnant shrew-mouse will itself burst after it has bitten an animal; shrew-mice are preserved, enclosed in clay, for medicinal purposes; the earth from a wheel-track is used as a remedy since a mouse will not cross a wheel-track because of some sort of natural torpor that strikes it if it does so.⁶¹ Aelian's version is that the shrew-mouse dies when trapped in a wheel-track; he too recommends the dust from the wheel-track, using the word *άρματοτροχία*.⁶² Apsyrthus' recommendation of cabbage with vinegar also has a parallel in *Geoponica* XII, the chapter on remedies from garden plants, where it appears in the section on cabbage.⁶³ Hierocles quotes Tarantinus, who is, as we recall, among Anatolius' sources as well.

In this passage we see not only the relation of the veterinary writers to one another, but also their links to ancient texts on medicine, agriculture, and *φυσικά* in the broader sense of natural history and magic. The inclusion of

⁵⁸ Cf. similar phrasing also in a recommendation for preserving pomegranates, attributed to Mago: Col. XII.46.5 = Speranza, *Scriptorum romanorum de re rustica reliquiae*, frg. 65, pp. 118–19.

⁵⁹ Arist. *HA* VII (VIII) 604b.

⁶⁰ Nic. *Theriaca* 816.

⁶¹ Pliny, *NH* XXIX.89.

⁶² Ael. *HA* II.37; cf. Timothy of Gaza 39. 4–5.

⁶³ *Geop.* XII.17.14.

Hippocrates' treatise in the *Hippiatrica* shows that the interest of the compiler was not limited to texts in a polished literary style. It is also evident that duplication of material was not a concern; on the contrary, the close relationship of the texts would have made it easier to gather into chapters an array of excerpts on the same subject.

The Compilation and Evolution of the *Hippiatrica*

THE text of the *Hippiatrica* contains no clear indication of the circumstances in which it was compiled. When, where, or why; by whom, at whose command: all these questions are left unanswered.¹ The compiler appears to have done his job discreetly, leaving no signature in the text—unless such a signature has been lost in the process of transmission. The earliest testimony to the existence of a hippiatric compilation is from the tenth century: an echo of the canon of authors exists in the names added to the lemmata of chapter XVI of the recension of the *Geoponica* dedicated to Constantine VII.² A notice in the tenth-century *Fihrist* of al-Nadīm of a book on ‘veterinary surgery, by the Greeks’ may refer to a translation of the *Hippiatrica*.³ The *Hierakosophon* of Demetrius Pepagomenos, a work of the fifteenth century, refers obliquely to works on horse medicine.⁴

This absence of specific evidence, combined with the prominence of the B recension both in the manuscript tradition and in the two printed editions, has led to a certain amount of confusion regarding the date at which the compilation was first assembled. The *Hippiatrica* was long identified as a product of the so-called encyclopaedism of the tenth century, no doubt because of its perceived kinship with the *Geoponica*.⁵ Not only do the agricultural and veterinary compilations both take the form of an excerpt collection, but they also have content in common: chapter XVI of the

¹ In the article on Jean Ruel in C. G. Jöcher, *Allgemeines Gelehrten-Lexicon*, 3 (Leipzig, 1751), the *Hippiatrica* is ascribed, no doubt through a typographical error, to Dioscorides, whose work Ruel published: ‘de la Ruelle, Johannes [*sic*]’, p. 2296.

² Ed. Beekh, pp. 451–67; cf. Oder and Hoppe, *CHG* II p. x.

³ Tr. B. Dodge, 8.3, pp. 738–9. M. Ullmann notes that a work entitled *Al-Baytara ar-rūmiya* appears to be preserved in Cairo, *Dār al-kutub* 914 *ṭibb*: *Die Medizin in Islam*, 219.

⁴ Ἀλλοι δὲ τῶν συνοίκων τε καὶ τετραπόδων ἐπιμελήσαντο, ἵππων τέ φημι καὶ βοῶν καὶ κυνῶν καὶ ἡμιόνων, καὶ τῶν πρὸς μελῶδιαν ἐπιτηδείων ὀρνέων, ed. Hercher, p. 335.

⁵ J. A. Fabricius, *Bibliotheca Graeca sive notitia Scriptorum veterum Graecorum*, ed. C. Harles, vol. 8 (Hamburg, 1802), pp. 9–10, followed by E. Gibbon, *The History of the Decline and Fall of the Roman Empire*, ed. J. B. Bury (London, 1898; repr. 1912), 66, ch. 53, n. 6 ‘the same emperor restored the long-forgotten systems of rhetoric and philosophy; and his two books of *Hippiatrica*, on Horsephysic, were published at Paris, 1530, in folio.’

Geoponica, which is devoted to the care and medical treatment of equids, is almost entirely drawn from Anatolius, and a number of excerpts from his text, as we have seen, are present both in the *Geoponica* and in the *Hippiatrica*. Moreover, Cassianus Bassus the *scholastikos*, compiler of the *Geoponica*, was identified with the Bassus to whom Hierocles dedicated his veterinary treatise.⁶ Hierocles, who, as a lawyer, would also have merited the title *scholastikos*, was thought to have compiled the *Hippiatrica*—a pleasing symmetry thus achieved by the attribution of similar literary productions to a pair of friends and colleagues with similar interests in animal husbandry and rural life.⁷

Eugen Oder himself established that the *Geoponica* was not produced for Constantine Porphyrogenitus, but is a Late Antique compilation re-edited in the tenth century; he also noted that Hierocles was not the compiler of the *Hippiatrica*, but one of the sources of the compilation.⁸ Oder's work led Giorgio Pasquali to make the guarded suggestion that a revised view of the transmission of the *Geoponica* could shed light on that of the *Hippiatrica*.⁹ The suggestion has, however, gone unheeded: the editors of the *Hippiatrica*, in their introduction to the text, assigned the compilation only to a date before the production of Phillipps 1538, believed by them to be of the ninth century.¹⁰ Björck, having earlier suggested a date 'am ehesten auf die byzantinische Zeit', later proposed that A was compiled 'dès le commencement de l'époque byzantine', without giving either a specific date or the reasons for his change of mind.¹¹ Doyen-Higuet cautiously emphasizes that there is no evidence for an early date.¹² And the view that the *Hippiatrica* is a compilation of medieval date continues to appear in works on the history of veterinary medicine.¹³

⁶ Thus N. Rigault, in the preface to his edition of the *Hierakosophion* of Demetrius (Paris, 1612), p. e iii^v; G. J. Voss, *De philosophia et philosophorum sectis libri*, II (The Hague, 1658), p. 53; cf. P. Needham, *Γεωπονικά, Geoponicorum sive De re rustica libri xx*, p. xxxvii.

⁷ Jean Massé, *L'Art vétérinaire, ou grande maréchalerie* (Paris, 1563), p. 3^r; K. Krumbacher, *Geschichte der byzantinischen Literatur* (Munich, 1891), 67–8, revised in the 2nd edn. of that work (1897), p. 263, after the criticism of Ihm (see below). Hierocles' role in the transmission of the *Hippiatrica* equated with that of Cassianus Bassus in the case of the *Geoponica* by Weitzmann, 'Macedonian Renaissance', 198.

⁸ 'Beiträge III', 27 ff.

⁹ 'Doxographica aus Basiliusscholien 1', *Nachrichten von der k. Gesellschaft der Wissenschaft zu Göttingen* (1910), 214–15.

¹⁰ CHG II p. vi, where the 10th-c. date proposed by Studemund and Cohn is rejected on the assumption that the *Orneosophion* dedicated to an emperor Michael, copied together with the *Hippiatrica* in b, once figured in B as well; and, furthermore, that the 'emperor Michael' ought to be identified with Michael III (r. 842–67).

¹¹ 'Zum CHG', 29; 'Apsyrtus', 32.

¹² 'Les textes d'hippiatrie grecque', 277; followed by Corsetti, 'Un nouveau témoin', 33.

¹³ Fischer, 'Probleme der Textgestaltung in der sogenannten *Mulomedicina Chironis*', 256; 'A horse! a horse!', 133.

That the splendid Phillipps 1538 is attributed to the imperial scriptorium of the tenth century, and that the *Hippiatrica* is consequently mentioned in discussions of the so-called Macedonian Renaissance, has further confused the issue. L. Cohn, who first associated the manuscript with Constantine VII, pointed out that the recensions in M and C differ from B and belong to different periods; whether earlier or later, however, he does not specify.¹⁴ J. Irigoin, who confirmed the tenth-century date and imperial provenance of B, does not speculate about the original date of the compilation.¹⁵ Doubts about whether the *Hippiatrica* was first produced for Constantine VII were also expressed by Rambaud and Dain in their studies on that emperor.¹⁶ Nevertheless one may read in standard works of reference that the *Hippiatrica* was 'compiled on orders from Constantine VII Porphyrogenetos'.¹⁷

B does not contain the text in its earliest form: the M recension, which is known only from Parisinus gr. 2322, and has not been edited in a particularly comprehensible way, appears to reflect an earlier archetype, one that reveals more clearly the method and intentions of the first compiler, and the character of his sources.¹⁸ Internal evidence—for the most part admittedly negative—suggests, as we shall see, that the compilation was first assembled in Late Antiquity. Without being able to fix a precise date, we may attribute A with some confidence to the fifth or sixth century, a period in which compilations of a similar nature, namely catenae and compilations of medical, legal, and historical texts, were being produced—and when hippodrome madness, and consequently interest in horses, was at its height.¹⁹ Comparison of the M and B recensions reveals that the *Hippiatrica* was subjected to a *κατασκευή* similar to that undergone by many other Late Antique texts in the tenth century; the fact that the text was felt to be in need of a facelift implies that it was not new at that time.

¹⁴ Cohn, 'Bemerkungen zu den Konstantinischen Sammelwerken', 158–60.

¹⁵ Irigoin, 'Pour une étude des centres de copie byzantins', 180; followed by Lemerle, *Le premier humanisme byzantin*, 296.

¹⁶ A. Rambaud, *L'empire grec au dixième siècle: Constantin Porphyrogénète* (Paris, 1870), 81–2; A. Dain, 'L'encyclopédisme de Constantin Porphyrogénète', *Bull. de l'Assoc. Guillaume Budé*, 3rd ser., Suppl. *Lettres d'humanité*, 12 (1953), 70.

¹⁷ *The Oxford Dictionary of Byzantium* (New York and Oxford, 1991), II. 933.

¹⁸ The view of M. Ihm, who recognized the importance of M, was that neither the M nor the B recension was made under Constantine VII, but that both belonged to an earlier period, 'Die *Hippiatrica*', 318.

¹⁹ See e.g. Cameron, *Porphyrius the Charioteer*.

THE M RECENSION AND THE FIRST COMPILATION A

Both the structure of M, and the condition of the text of the sources, imply that, of all the surviving recensions of the *Hippiatrica*, M represents a stage closest to the original compilation A.²⁰ The simple, consistent organization of M does not bear traces of reworking: the alphabetical order of authors is undisturbed; and each author is named only in the lemma of the first excerpt in each series of passages from his text. This economical system of attribution is based on the premise that the author of every excerpt is known; the system is dependent for accuracy upon the uniform repetition of the order of the authors, and also upon the correct placement of excerpts with no attribution in their lemmata. All excerpts are accounted for in this way, none are anonymous (although there are a few instances of ambiguity). Moreover, there seem to be no interpolations or additions to the seven sources, though there are accretions at the end of the text, namely metrological tables and a few recipes.

Comparison of the structure and content of the M, B, and CL recensions of the *Hippiatrica* permits us to draw some conclusions about the organization and sources of A. The fact that all the treatises used as sources form a coherent corpus points to an earlier period, when a large number of specialized books would have been available.²¹ Their texts do not appear to have been subjected to paraphrase: distinct styles are recognizable even in the short excerpts, which are not introduced with *ὅτι*, *ἐκ τοῦ* or any similar indication of abridgement or excerption.²² Nor is there evidence that any of the sources had previously been gathered into a compilation.²³ This 'freshness' suggests that the treatises were compiled not long after they were written, when a

²⁰ Ihm, 'Die Hippiatrica'; Oder-Hoppe, *CHGI* p. v, *CHGII* p. xviii; Björck, 'Zum *CHG*', 20–2.

²¹ In contrast to the motley assortments of texts used as sources for Middle Byzantine compilations, e.g. the *De administrando imperio* and the Bestiary dedicated to Constantine VII, and the uneven use of sources in e.g. the *Souda*. Whereas in Late Antiquity the number of available books was felt to be overwhelming, in the 10th c. the scarcity of books is lamented; cf. I. Ševčenko, 'Re-reading Constantine Porphyrogenitus', in J. Shepard and S. Franklin (eds.), *Byzantine Diplomacy* (London, 1992), 189–93.

²² The Bestiary draws on two versions of Aelian, the full text and an epitome; excerpts from the full text are labelled *ἐκ τοῦ πλάτους*. Excerpts in the Bestiary from Philostorgius' *Ecclesiastical History* are prefaced with *ὅτι*.

²³ K.-D. Fischer has observed that *Mulomedicina Chironis* II and III appear to be compiled of excerpts from Apsyrus, Sotion, and Farnax; 'Ancient Veterinary Medicine', p. 200. Although thus related in form to the *Hippiatrica*, and also in content through use of Apsyrus, the *Mulomedicina* was not a source for the Greek compilation. But could it have been a model for the *Hippiatrica*? The date and circumstances in which the *Mulomedicina* was compiled are even more obscure than those of the *Hippiatrica*; until they are elucidated, it is impossible to tell.

complete copy of each was available.²⁴ Although none of these treatises can be dated with precision, they appear to belong, on the whole, to the third and fourth centuries AD. The names of the authors and those whom they cite are pagan; Constantinople is not mentioned, though more ancient cities are, and Christ is only mentioned, among diverse deities, in spells. There are no Slavic or Arabic loanwords in the source texts, nor is there reference to *materia medica* such as ambergris, nutmeg, or musk, whose use became common after Late Antiquity.²⁵

In organization, the M recension resembles a catena based upon Apsyrthus, into whose text are interwoven excerpts from the treatises of six related authors. Apsyrthus' treatise, already divided up by subject into letters, formed a convenient starting-point for dossiers on each subject.²⁶ The treatises of Theomnestus, Pelagonius, and Hierocles, which all draw heavily upon Apsyrthus, would have been easy to divide following suit. Eumelus was used by Apsyrthus, and Anatolius is also related to Apsyrthus through their use of the Mago-Diophanes tradition. Such use of one text as an armature appears to have been a standard device of compilation, and is not diagnostic of date.²⁷ That Apsyrthus is the foundation but not the focus of the compilation—the catena, to continue the analogy, does not serve to elucidate his text—is made

²⁴ In what material form did these treatises circulate? The sources of the *Hippiatrica* appear to have been composed or compiled between the 3rd and 5th c. AD, the period when the codex began to overtake and replace the roll as the form in which books were produced. (The codex achieved parity with the roll c. AD 300: C. H. Roberts and T. C. Skeat, *The Birth of the Codex*, 37.) A papyrus fragment of one author, Anatolius, has recently been identified; his treatise, divided into twenty books, appears to have been published in the form of rolls. Hierocles' treatise, divided into two books, was also presumably presented as two rolls.

²⁵ On medieval drugs and drug names as evidence of interpolation in Late Antique medical texts, see A. Garzya, 'Problèmes relatifs à l'édition des livres IX–XVI du *Tétrabiblon* d'Aétios d'Amida', *Revue des études anciennes*, 86 (1984), 245–57, esp. p. 255.

²⁶ *CHG* II p. xx, Björck, 'Apsyrthus', 31.

²⁷ From Late Antiquity: catenae of two or more authors using not a scriptural text but another commentary as an 'axis' (to use Devreesse's term); 'Chaînes exégétiques grecques', cols. 1092–3. In the *Digest*, the order of subjects is taken from that of the Praetorian Edict; O. Lenel, *Edictum perpetuum* (3rd edn., 1927; repr. 1956); cf. Honoré, *Tribonian*, 140. The backbone of the anonymous *Periplus of the Euxine Sea* is the periplus of Menippus; A. Diller, *The Tradition of the Minor Greek Geographers* (Lancaster, Pa., 1952; repr. Amsterdam, 1986), 102 ff. Chronological lists of rulers and patriarchs are used as the skeleton of chronicles, as W. Witakowski observes: *The Syriac Chronicle of Pseudo-Dionysius of Tel-Mahrê: A Study in the History of Historiography* (Studia Uppsala, 1987), 74. Medieval examples: the treatise of Apollodorus is the basis of the *Poliorcetica* of 'Heron', *Siegecraft*, ed. D. F. Sullivan (Washington, DC, 2000), 1.25–40, pp. 27–8; while that of Aristophanes of Byzantium provides the subject-headings for the second book of the *Bestiary* of Constantine VII, whose title provides a clear description of the procedure: 'Ἀριστοφάνους τῶν Ἀριστοτέλους περὶ ζῴων ἐπιτομή, ὑποτεθέντων ἐκάστῳ ζῴῳ καὶ τῶν Αἰλιανῶ καὶ Τιμοθέῳ καὶ ἑτέροις τιῶν περὶ αὐτῶν εἰρημένων' ('Aristophanes' Epitome of Aristotle's *On Animals*, with, placed under [the heading of] each animal, the things said about them by Aelian, Timothy, and some others'), ed. Lambros, p. 1.

clear by the method of compilation of M. Toward the end of the text, each author in turn heads the series of excerpts. It thus appears that the intent of the original compiler was to exploit fully each of the seven texts. This intention is in contrast with the more usual desire of compilers to eliminate repetition and contradiction.²⁸ We may infer that all of the seven authors were considered equal in authority by the compiler, and also perhaps that the veterinary literature available was not overwhelming in quantity.

As in other disciplines, the compilation of hippiatric texts resulted in the creation of a canon of authors.²⁹ That they are seven—a ‘canonical’ number—and that all seven texts were presented in full may well indicate that the creation of a veterinary canon was the compiler’s deliberate intent.

Within the canon, individual authors function differently from the way they do alone. The combined effect of many voices drowns out individual differences: the opinion of a single author has less weight when it is contradicted by the opinions of three others in excerpts placed immediately afterward.³⁰ This is the case, for example, with Apsyrtus’ opinion about treating madness, *μανία*, by isolating the horse in a darkened stall (M307), adopted by Hierocles, but contradicted by Eumelus (M309), Hippocrates (M312), and Pelagonius (M313). In the *Hippiatrica* the chronological relationships between authors are not made clear in the presentation of the texts, so that any notion of progress must be deduced by the reader from comparison of texts.³¹ In later recensions, as we shall see, a hierarchy is created by the order of presentation of the excerpts or by the comments of an editor.

This twofold organization—by subject and by author—does not give the encyclopaedia any sort of analytical structure, but is simply a combination of filing devices used to organize documents of different types.³² Assuming that the structure of the M recension is an accurate reflection of A, one may only conclude that the compiler had no desire to impose his identity on the compilation, but preferred instead to give prominence to the source

²⁸ Cf. e.g. the statements in the prefaces of Oribasius, ed. Raeder, I.3; of Procopius of Gaza (catena on the *Octateuch*), PG 87.1, cols. 21–4; of the compilers of the *Digest*, *C. Deo auctore* 4; of Theodore Lector, ed. G. C. Hansen, *Theodoros Anagnostes Kirchengeschichte*, 2nd edn. (Berlin, 1995), p. 1.

²⁹ In the case of the law, texts not included in the compilation were rejected as non-authoritative by the so-called ‘Law of citations’, a constitution of Theodosius and Valentinian (426), *Cod. Theod.* I.4.3; cf. Schulz, *Roman Legal Science*, 281. In the case of the veterinary texts there was no formal condemnation of authors not included in the compilation; nevertheless inclusion seems to have contributed to the survival of texts.

³⁰ M307 ff. = B101.2, 4, 6, 8, 9, *CHG I* pp. 347–50. See above, p. 252.

³¹ The comments of the editor of L on the relation of Apsyrtus, Hierocles, and Tiberius are revealing of the confusion which may arise in this respect.

³² The poetic anthologies of Meleager, Philip, and Agathias provide examples of organization by subject, or in alphabetical order, or by regular alternation of authors: see A. Cameron, *The Greek Anthology from Meleager to Planudes*, (Oxford, 1993) 19–43.

treatises.³³ The decision to present excerpts from each author in alphabetical order according to the author's name avoids the imposition of a hierarchy of importance and places emphasis on the authors, who are treated as distinct, recognizable authorities. The order is not absolute, but based on the first letter of the names only:³⁴ although the first inversion, Ἀψύρτος before Ἀνατόλιος, may be explained by the importance of Apsyrtus' text,³⁵ there is no obvious reason for Ἰπποκράτης to be placed before Ἱεροκλῆς.

The order of subjects, in which no logical principle may be discerned, may well be derived from Apsyrtus' treatise. The misplacement of a number of excerpts in the process of excerption confirms this view. For example, the greeting of Apsyrtus' letter on διάρροια (diarrhoea) refers to a letter on κριθίασις (laminitis) previously sent to the same person; the two letters follow one another in M, so that the excerpt on diarrhoea intrudes into the series on laminitis.³⁶ One duplicated passage offers a clue about the method of excerpting: the end of a passage from Eumelus appears once in its correct place and once prefaced to another Eumelus excerpt.³⁷ It would thus appear that in this instance at least, excerpts were copied from a manuscript in which the passages to be included had been marked.³⁸ Four other remedies are duplicated in full in different parts of the compilation, possibly as the result of carelessness on the compiler's part; alternatively, the doublets may have been present already in the source treatises, since the excerpts in question are from Apsyrtus and Pelagonius, authors who themselves compiled material from different texts.³⁹

³³ The sources are given prominence in the title of M, Ἀψύρτου, Διοκλέους, Πελαγονίου καὶ λοιπῶν κεφάλαια περὶ θεραπείας ἵππων 'Chapters on the healing of horses from Apsyrtus, Diocles, Pelagonius, and others' (fo. 1^v). The error (of transliteration?) Διοκλέους for Ἱεροκλέους implies that this title was not drawn from the text by the scribe of M; one may wonder whether it bears any relation to the original title—if one existed—of the compilation. On the term κεφάλαια, not used in this sense before the 5th c. AD, see Méhat, *Étude sur les 'Stromates' de Clément d'Alexandrie*, 119.

³⁴ As was conventional, absolute order being restricted to lexicographical works: see L. W. Daly, *Contributions to a History of Alphabetization in Antiquity and the Middle Ages* (Brussels, 1967), 95.

³⁵ In the alphabetical collections of the *Apophthegmata Patrum*, St Antony, the first monk, heads the list out of seniority, though his name is not the first in absolute alphabetical order; cf. J.-C. Guy, *Recherches sur la tradition grecque des Apophthegmata Patrum* (Brussels, 1962), 19.

³⁶ M102 and 103, table of contents of M, *CHG* II p. 3.

³⁷ Eum. M107 = B16. 4, *CHG* I p. 90 and M1027, *CHG* II p. 98. Oder explains the repetition by imagining that the passage was written in the margin between two columns of text; *CHG* II p. xxiii. It is also possible that it was part of the main column of text, and simply copied twice.

³⁸ The only manuscript of the *History* of Theophylact Simocatta has marginal notes which correspond to the ὑποθέσεις of the Constantinian *Excerpta*: it has been proposed that this was the copy used by the compilers. P. Schreiner, 'Die Historikerhandschrift Vat. gr. 977: ein Handexemplar zur Vorbereitung des Konstantinischen Exzerptenwerkes?', *JÖB* 37 (1987), 1–29.

³⁹ Aps. M115 and 209; Pel. M615 and 721, 126 and 231, 146 and 966; see *CHG* II p. xxiii, also Hoppe, 'Pelagoniusstudien', 39–40. On the other hand, it has been suggested by Fischer that the compiler of B used two versions of Pelagonius; 'Two Notes on the *Hippiatrica*', 371–5.

A number of displacements of individual excerpts and series in M may be interpreted as errors of 'filing' in A. The majority of these may be attributed to confusion of similar words in the lemmata, without reference to the text of the excerpt. For example, an excerpt with the lemma *πρὸς βουλσούς* intrudes into a series *πρὸς βουλιμίαν*; similarly, *περὶ χωλείας ἐν γόνασιν* appears among passages labelled *περὶ χωλέρας*.⁴⁰ These slips imply that the first compilation was assembled without great care, and possibly not by a veterinary practitioner, who might have been more attentive to the content of the excerpts.

It appears that even material present in the source texts but not of a specifically medical nature was included in the original compilation. M contains several prefaces, most prominently Apsyrtus' dedication of his treatise to Asclepiades, but also a few lines which introduce his work or chapter on cows.⁴¹ Hippocrates' preface is preserved at the end of M.⁴² M does not include Hierocles' prooimia, which are featured prominently in the B, CL, and RV recensions; however, it is logical to assume that these were present in A and removed by the editor of M, rather than added by the editor of B from an independently surviving copy of the treatise. Anatolius' compilation had a preface which is preserved in Arabic and echoed in Photius' review; it may have been considered too general in nature to be included in the veterinary compilation. And there is no trace in any version of the *Hippiatrica* of Pelagonius' rhetorical dedication, preserved in Latin, or of the preface which appears in the Arabic translation of Theomnestus. The reuse of old prefaces is a feature of many compiled texts;⁴³ other non-technical material from sources is included, for example, in Justinian's *Digest*.⁴⁴

The anonymity of A (unless a preface is missing) might suggest that the compilation was a private project. The identity of the compiler remains a mystery, but it is not too difficult to imagine that in the late fifth or early sixth century, the age of hippodrome mania, of Porphyrius the charioteer, and of the great compilation projects under the quaestor Tribonian, someone with experience in excerpting technical texts, and perhaps also an interest in horses, might have undertaken such a task.

⁴⁰ Listed by Oder and Hoppe, *CHG* II pp. xxii–xxiii.

⁴¹ M916, *CHG* II p. 90.

⁴² M1068, *CHG* II pp. 104–5.

⁴³ e.g. the *De orthographia* of Cassiodorus: V. Law, *Grammar and Grammarians in the Early Middle Ages*, p. 95 and n. 24, p. 117; the *Periplus of the Euxine Sea*: Diller, *Minor Greek Geographers*, 102 and 118; and, from the Middle Byzantine period, the fourth book of the Palatine Anthology: Cameron, *The Greek Anthology*, 149.

⁴⁴ Honoré, *Tribonian*, 252.

THE M RECENSION

Parisinus gr. 2322, the sole manuscript to contain the M recension, provides a *terminus ante quem* of the late tenth century for the text. The manuscript itself may well have been produced at Constantinople; its single band of decoration (Pl. 2) resembles the simpler types of palmettes in roundels in B. The use of gold, and the good quality of the parchment, indicate that the manuscript must have been an expensive book; annotations in the margins indicate that it was also used for practical reference.

It is probable that the M recension, based upon A, pre-dates the massive effort of reorganization of the B recension. Was the M recension produced in the context of transliteration? Technical manuals were among the first to be transliterated;⁴⁵ interest in them may have been fuelled by technological rivalry with the Arabs, who at this time began to acquire, translate, and use Greek scientific texts.⁴⁶ Since the only additions of the compiler are the lemmata, errors of transliteration in these would seem to be evidence that the compilation antedates the introduction of the minuscule script. Errors in the lemmata of M include *KOΛΟΥΜΕΝΟΥ* for *KOΛΟΥΜΕΛΛΟΥ*,⁴⁷ *ΕΠΑΔΟΝΤΑ* for *ΠΑΔΟΝΤΑ*.⁴⁸ The title of the compilation in M contains the error *ΔΙΟΚΛΕΟΥΣ* for *ΙΕΡΟΚΛΕΟΥΣ* (Pl. 1), unlikely to be the result of misreading a minuscule hand.⁴⁹ There are indications that the lemmata of the transliteration copy, the common ancestor of A and B, were in uncials: an excerpt labelled *KATAΚΕΥΗ ΚΑΥCΤΗΡΟC* is placed in a chapter on caustics, evidently (as Oder and Hoppe point out) having been misread as *KATAΚΕΥΗ ΚΑΥCΤΗΡΟC*.⁵⁰ Of course, the title and lemmata may well have been copied in uncial even after the text was transliterated; one may note that the lemmata in M are in a half-uncial.

Anatolius, the only source to be transmitted independently of the compilation in Greek, may be used as a test. Where the text of Anatolius in *Geoponica* XVI has *ΧΥΑΙCΘΕΝΤΑ*, the reading of M is *ΔΙΥΑΙCΑΝΤΕC*, apparently from a different transliteration. The latter appears to have been the basis for the change in B to *διηθηθέντα*.⁵¹

⁴⁵ Wilson, *Scholars of Byzantium*, 85 f.; Irigoin, 'Survie et renouveau de la littérature antique à Constantinople (IXe siècle)', in *La tradition des textes grecs* (Paris, 2003), 201 ff.

⁴⁶ See D. Gutas, *Greek Thought, Arabic Culture* (London, 1998), 181–6.

⁴⁷ M53, CHG II p. 2, and apparatus. ⁴⁸ M173, CHG II p. 5.

⁴⁹ CHG II p. 1. ⁵⁰ M67 = B96.27, CHG I p. 335; cf. Pl. 133 *aliud clysterium*.

⁵¹ M3, B1.23, CHG I p. 10 and apparatus.

Was there more than one transliteration of the hippiatric compilation? The presence of the same transliteration errors in M and in recensions derived from B indicate that both branches of transmission derive from a single transliteration. The error *AXEΛITH* for *MCAITH* appears in M; the passage is not included in B, but does figure in the RV recension, which is derived from B. The correction *Ἀχελώω* in L must be based upon the same erroneous transliteration.⁵²

In what way, may we imagine, does M differ from A? The verbose lemmata of M, drawn, as Björck has shown, from the text of the excerpts, probably reflect those of A.⁵³ Similarly, the text of the excerpts, apparently not subjected to editorial reworking, seems to have been taken over from A without change. A certain amount of content was omitted, namely the many passages of Hierocles that duplicate material in Apsyrtus.⁵⁴ Excerpts from Apsyrtus are eliminated when Theomnestus gives a fuller account, namely in the series *περὶ παραγωγῆς τραχήλου* and *περὶ πλησμονῆς καὶ ὠμότητος*.⁵⁵ The interests of the editor of M appear to have been practical rather than literary: Hierocles' prooimia are omitted, (apart from one short fragment containing information about breeding);⁵⁶ as are the passages in which he simply paraphrases Apsyrtus. A practical, rather than learned, character is also illustrated by the lack of attention to the Latin names of Apsyrtus' addressees, which are sometimes omitted,⁵⁷ and very often garbled in M. *Ἀρματοκοργίτη Τομίτη* may simply be the result of careless copying; the name is given in B as *Ἀρτεμᾶ τῷ Τομεῖ*.⁵⁸ *Δεγμῖω κλαστικῷ* in M appears as *πλαστικῷ* in B, the corrupt *Δεγμῖω* evidently in a common ancestor.⁵⁹ Although Theomnestus' reminiscences are included, they constitute case-studies, and are therefore of medical interest. Even a list of synonyms given by Apsyrtus was deemed superfluous.⁶⁰ There may have been more magical remedies present in A than in M, since the Latin text of Pelagonius includes spells not present in M. A prescription from Dioscorides for mange was added at the end of M.⁶¹ The conversion tables of measurements present in the M and B recensions represent a useful addition

⁵² M225, *CHG* II p. 45, and apparatus.

⁵³ 'Zum *CHG*', 23–7.

⁵⁴ Cf. Ihm, 'Die Hippiatrica', 316. There are a few exceptions, e.g. M163 = B50.2 included instead of Aps. B50.1 to which it is very similar.

⁵⁵ M121 and M149; cf. B24.1, *CHG* I p. 121 and B98.1, *CHG* I p. 339.

⁵⁶ M1039, *CHG* I p. 6.

⁵⁷ M71 = B96.1, *CHG* I p. 326; M552 = B21.1, *CHG* I p. 101.

⁵⁸ M438 = B54.1, *CHG* I p. 239.

⁵⁹ M114 = B16.1, *CHG* I p. 88; Oder and Hoppe suggest that the name was originally Decimius Classicus.

⁶⁰ B2.1, *CHG* I p. 13.

⁶¹ *Hippiatrica Parisina*, index 1213, 1215, *CHG* II p. 28; cf. B69.24, *CHG* I p. 276 = Diosc. I.20.

to the compilation. Were they present in A, or added at a later stage?⁶² In the *pinax* of M, one is numbered consecutively with the rest of the text, while the last is unnumbered.⁶³ One of them is from the treatise on cosmetics attributed to Cleopatra, quoted in Galen and Aetius of Amida.⁶⁴

THE B RECENSION AND CONSTANTINE PORPHYROGENITUS

The principal manuscript of the B recension, Phillipps 1538 (Pls. 3–5), provides a tangible link of the *Hippiatrica* to the scriptorium of Constantine VII (r. 945–59). The nature of the text, too, fits the pattern of useful compilations re-edited or produced under the auspices of that emperor.⁶⁵ Just as, in Late Antiquity, the emperor had promoted the practice and transmission of crafts (veterinary medicine among them), so too, in the Middle Byzantine period it was the duty of the emperor to promote the arts of war and peace. The legal compilations of the Middle Byzantine period refer to the great projects and emperors of Late Antiquity.⁶⁶ And the preface of the *Geoponica*, which constitutes a keynote speech or programmatic statement for this activity, paints an Anastasis-like picture of Constantine VII rescuing rhetoric and philosophy from the yawning abyss of forgetfulness, and initiating a renewal of every science and craft.⁶⁷

Although the B recension lacks the dedicatory preface conventionally affixed to the Constantinian editions and compilations, it is not impossible, since several folia have been lost from the beginning of Phillipps 1538, that such a preface was once present.⁶⁸ A number of other features of execution of

⁶² Cf. Dain, *Histoire du texte d'Élien*, 158–9 for a metrological passage added to the *Tactica theoria* after transliteration.

⁶³ Ed. Hultsch, *Scriptores Metrologici*, I 228 ff.

⁶⁴ Ibid. I. 233–6.

⁶⁵ Emphasis on usefulness: Cohn, 'Bemerkungen zu den Konstantinischen Sammelwerken', 156. *Excerpta de virtutibus et vitiis*, ed. T. Büttner-Wobst (Berlin, 1906), p. 2; *De legationibus*, ed. C. de Boor (Berlin, 1903), pp. 1–2; *Geop.* ed. Beckh, p. 2.

⁶⁶ P. Noailles and A. Dain, *Les Nouvelles de Léon VI le Sage* (Paris, 1944), pp. xiii–xiv.

⁶⁷ *Geop.*, pp. 1–2: Πρώτα μὲν γὰρ φιλοσοφίαν τε καὶ ῥητορικὴν ἥδη παρεῖρηκυίας καὶ πρὸς ἀχανὴ βυθὸν τῆς λήθης καταδεδυκυίας εὐμηχάνως καὶ συνετῶς ἀνελκύσω, τὴν κραταίαν σου χεῖρα ταύταις προσεπιδούς. ἔπειτα δὲ καὶ πάσαν ἄλλην ἐπιστήμην τε καὶ τέχνην πρὸς καινισμόν ἐπανήγαγες.

⁶⁸ Fos. 1^r and 1^v bear the beginning of the table of contents; fo. 2 is the first page of a new quire. According to Cohn, 'Bemerkungen', 159, cf. Irigoin, 'Pour une étude des centres de copie', 180 n. 7, the MS is composed uniformly of quaternios, so seven leaves must be missing. At 20 lines per page, these missing leaves potentially contained 280 lines of text. The table of contents

the B recension also reflect the tastes and methods of the tenth-century editors; the most important of these being the polishing of the style of the text. The re-editing of the *Hippiatrica* was conducted in very similar manner to the paraphrasis of the *Lives* and *Passions* of saints, an imperial project carried out by a team working under the direction of Symeon the Logothete.⁶⁹ The hallmarks of this process have been identified using texts which have been transmitted in both pre-metaphrastic and metaphrastic versions: allusions to specific places, events, and people were omitted, Latin loanwords (considered inelegant) were replaced with Greek equivalents, some new sources of information added, and a certain uniformity imposed on diverse texts through paraphrase into a higher style.⁷⁰ It is telling that the *Hippiatrica* received a treatment accorded, in the tenth century, to texts from an earlier period. In contrast, the prefaces to compilations produced in the tenth century invariably state that for clarity's sake colloquial speech, *καθωμυλημένη καὶ ἀπλουστέρα φράσις*, is used.⁷¹ The text of the B recension is still plain technical prose, but the alterations are significant, and are often not sufficiently taken into account.

The B recension has a more analytical organization than the simple twofold arrangement of M. Excerpts are gathered by subject into some 130 numbered chapters, each headed with a title, for example *κεφάλαιον μ' περὶ σπληνός*: the subjects of the excerpts are now given more emphasis in the ordering of the text than are the names of the authors. These chapters are arranged in an order more coherent than that of M, beginning with grave or systemic diseases, then proceeding more or less *a capite ad calcem*, and ending with accidents, bites

presumably listed the 132 chapter-headings in the B manuscript; 33 of these chapter headings survive on the two sides of fo. 1. Allowing for the fact that some chapters have long titles that might take up more than one line in the large script, and assuming that only 17 or so lines were filled on each page, there would still be space on the missing leaves for the 99 remaining chapter-headings, some blank space at the end of the table of contents—and for an elaborate headpiece and a prooimion. For comparison, the 10th-c. prooimion of the *Geoponica* takes up roughly 50 lines in the modern edition; that of the treatise *περὶ διαίτης* roughly 25 lines. Although several of the Renaissance copies of B have tables of contents, not one has a prooimion: if one was present, it apparently was lost before the copies were made. It seems less likely that the text of B was prefaced with illustrations, as suggested by Weitzmann, 'Macedonian Renaissance', 194–5, although it is true that dedication portraits are present in the later Italian hippiatric manuscripts which we shall consider below.

⁶⁹ Praise of the project, including allusion to imperial sponsorship and to a team of co-workers, in the encomium of Symeon by Michael Psellos: *Michaelis Pselli orationes hagiographicae*, ed. E. A. Fisher (Stuttgart and Leipzig, 1994), 276–86.

⁷⁰ See H. Zilliaccus, 'Das lateinische Lehnwort in der griechischen Hagiographie: ein Beitrag zur Geschichte der klassizistischen Bestrebung im X. Jahrhundert', *BZ* 37 (1937), 302–44; idem, 'Zur stilistischen Umarbeitungstechnik des Symeon Metaphrastes', *BZ* 38 (1938), 333–50.

⁷¹ *De cerimoniis*, proem., p. 5; *De administrando imperio*, 1, p. 48; Theophanes Chrysobalantes, *Περὶ διαίτης* in Cohn, 'Bemerkungen', 156; cf. also 'Heron of Byzantium', 1, ed. Sullivan, p. 28 (Wescher, p. 199).

and stings, and recipes for drugs divided into drenches and ointments. This organization is reminiscent of compilations on human medicine (such as that of Alexander of Tralles, produced in the sixth century), and may have been effected on their model. Within the subject headings, the regular alphabetical order of authors is disrupted. Apsyrtus is still first, but Hierocles' text is placed immediately after that of Apsyrtus in some sixty chapters as though to emphasize the parallelism between them, and invite comparison of their content or style. Moreover, longer narrative passages are placed prominently at the beginning of each chapter, with shorter recipes appended at the end; this arrangement makes the text more readable, but passages of text by the same author may be separated. This reordering has a negative consequence for the identification of the excerpts: evidently no care was taken to relabel those passages that in M are identifiable only by their placement in a series of excerpts attributed (in the initial lemma) to a certain author—so that many of the recipes that appear toward the ends of the chapters in B are anonymous, simply labelled *ἄλλο* or *εἰς τὸ αὐτό*. Such loss of identity is especially noticeable in the case of Pelagonius, much of whose treatise consisted of lists of short prescriptions introduced simply with *aliud*, *ἄλλως* in the Greek translation. Although in the chapters of B, there are traces of series from M, the thorough disruption of the consecutive numbering of M suggests that the excerpts were copied onto slips, or even cut apart and reshuffled, rather than being copied out in blocks. In the process of rearrangement, some excerpts oddly placed in M have been moved to a more logical context; doublets have also been eliminated.⁷² Other excerpts are misplaced through obvious misunderstandings, resulting, as in M, from confusion of similar words.⁷³

B differs from M not only in the overall organization of the text, but also in content.⁷⁴ Much more of Hierocles' text is included, including the two prooimia. The first appears after Apsyrtus' chapter on fever, and is identified as *Ἱεροκλέους εἰς αὐτὸ προοίμιον*.⁷⁵ Hierocles' second preface is placed roughly in the middle of the compilation (chapter 59), and labelled *Ἱεροκλέους ἱππων θεραπείας Β'*; however, there is no indication that the B recension was divided into two books. (That prooimia attracted the attention

⁷² For example, Apsyrtus' chapter on diarrhoea is placed among other excerpts on that subject, whereas in M it had figured in a series of excerpts on laminitis: M102=B8.1–3, *CHG* I pp. 48–50; M103 = B35.1, *CHG* I p. 192; the doublet *περὶ ἔλκους ἐν ὠτίῳ* eliminated; M115 and 209; B17.1, *CHG* I p. 91.

⁷³ B77.23: *πρησμονή* of intestines misplaced in a series on swelling of legs; B56: *ἰππότιλον* understood as *τίλλω*, not *τίλος*; B57: *κερκίς* misunderstood as *κέρκος*.

⁷⁴ These differences in content are not clearly represented in the Teubner edition. Omissions from B are printed partly as additions, in angle brackets, to the text of B in *CHG* I, partly in the apparatus to the text of B, and partly in *CHG* II as *Hippiatrica Parisina*.

⁷⁵ B1.9, *CHG* I p. 3.

of the editors of B is confirmed by the title of chapter 129, *περὶ ἐγχυματισμῶν σκευασίας. Προοίμιον Ἀψύρτου*.)⁷⁶

Two new sources, the treatise of Tiberius and a set of anonymous *προγνώσεις καὶ ἰάσεις*, are added to B. Tiberius is related to the agricultural writers: in the fragments of his text are numerous parallels with Anatolius and Africanus.⁷⁷ His work included treatments for both horses and cows; though none of the latter appear in B, a list of them is appended to L, and some appear anonymously in RV. His name, and an allusion to ‘denarii’, suggest a Late Antique date.⁷⁸ The *προγνώσεις καὶ ἰάσεις* are notable for their reliance upon cautery, and their avoidance of irrational remedies.⁷⁹ At the end of B are two recipes that call for *materia medica* introduced only after the Arab conquest: ambergris, galangal, etc. (Pl. 5)⁸⁰ There seems to have been no attempt, though, to systematically incorporate innovations in pharmacology into the compilation.

Worthy of note is the excision of all passages of magical character—together with, for the sake of thoroughness, many excerpts which contain references to ‘paradoxa’⁸¹ or ‘Hellenes’ (evidently understood as ‘pagans’).⁸² (One superstitious remedy seems to have escaped the editor, namely, the recommendation by Apsyrtus and Pelagonius that a shrew-mouse encased in clay be used as an amulet against the bites of others.)⁸³ Middle Byzantine legislation specifically retracted the concessions granted in the Theodosian Code for magic performed in the context of agriculture and of healing;⁸⁴ the reflection, in the B recension, of this prohibition is further corroboration that the re-editing of the text was undertaken in an official milieu. Other omissions show that the editor’s intention was to restrict the content of the compilation to horse-medicine: remedies designated specifically for cows are removed,⁸⁵ as is a passage on the care of the foal.⁸⁶

In addition to alterations of content and organization, the text itself was given a minute overhaul. The lemmata of individual excerpts were standardized, for the most part in the form (author’s name in genitive) *περὶ* or *πρὸς* (subject), and made more succinct.⁸⁷ A number of ‘fossilized’ vestiges of the

⁷⁶ M759 = B129.1, *CHG* I p. 385.

⁷⁷ Cf. Björck, ‘Apsyrtus, Julius Africanus’, 16–17.

⁷⁸ C13.3, *CHG* II p. 151.

⁷⁹ Björck, ‘Zum *CHG*’, 60–3.

⁸⁰ Phill. 1538, fos. 393^v–394^v; *CHG* I pp. 446–8. Cf. Garzya, ‘Problèmes relatifs à l’édition des livres IX–XVI du *Tetrabiblon* d’Aëtios d’Amida’, also McCabe, ‘Imported *Materia Medica*, 4th–12th Centuries, and Byzantine Pharmacology’ (forthcoming).

⁸¹ Aps. C33.4–6, *CHG* II pp. 168–9.

⁸² M29, 30, *CHG* II pp. 31–2.

⁸³ Aps. M694 = B87.1, *CHG* I p. 314; Pel. M707 = B87.6, *CHG* I p. 316.

⁸⁴ Noailles-Dain, *Les Nouvelles de Léon VI le Sage*, Nov. 65, pp. 237–9: ἀποδέχεται δὲ πάλιν αὐτὴν ὡς σπερμάτων καὶ καρπῶν θεραπείαν . . . ἡμεῖς δὲ τὴν τοιαύτην μαγανείαν ὀλεθρίαν μὲν ὑπάρχουσιν πεθόμεθα . . . εἴ τις δὲ ὅλως τοιαῦτα φωραθείη μαγανεύμενος, εἴτε προφάσει τῆς τοῦ σώματος θεραπείας, εἴτε ἀποτροπῆς τῆς τῶν καρπῶν βλάβης, τὴν ἐσχάτην εἰσπρατέσθω ποινὴν . . . cf. note 65, p. 16 above.

⁸⁵ M916, 917, 919, *CHG* II pp. 90–1.

⁸⁶ M1065, *CHG* II p. 103.

⁸⁷ Björck, ‘Zum *CHG*’, 23–4.

earlier forms of the treatises are likewise omitted, for example internal cross-references and addresses by Apsyrus and Theomnestus to the dedicatees of their treatises.⁸⁸ The compilation was further tidied up by the removal of traces of careless excerpting: the introduction to Apsyrus' discussion or book of treatments for cows, fragmentary in M, is eliminated from B, as are an epistolary greeting detached from the body of its letter, and a passage from Eumelus copied by mistake at the beginning of another excerpt.⁸⁹ Finally, what may be considered a metaphrasis of the text was carried out, in accordance with the fashion of the time. The result, as in the case of the *Lives* of saints, is that a certain amount of the flavour of the Late Antique language is lost, while the individual characters of the texts and their authors have been blurred. A number of words of Latin origin are purged and replaced with Greek equivalents, one of the most ubiquitous examples being the replacement of *στάβλον* with *ἵππόστασις*.⁹⁰ Phrases recommending remedies, a feature most evident in the writing of Theomnestus and Pelagonius, are often omitted.⁹¹ Syntax is upgraded, for example with use of optatives⁹², the addition of particles, and the abridgement of long paratactic sentences (often with the result of obscuring or altering their meaning). The editors also seem to have had a preference for the passive imperative, introducing it frequently into instructions for treatment, often apparently influenced by use of the form in Eumelus and Hierocles.⁹³

A real hierarchy may be discerned in the treatment of the various sources: some authors evidently passed muster, while others did not. Hierocles is not much changed; his style seems to have been the most favoured by the editor. Apsyrus' text underwent more alteration. On the level of content, all his magical remedies are omitted, as well as some passages referring very specifically to people and places.⁹⁴ Although the Latin names and titles of Apsyrus'

⁸⁸ Apsyrus' admonition to Asclepiades, M1 = B1.2, *CHG* I p. 1; Theomnestus M537 printed as an addition to B7.7, *CHG* I p. 47; M89, apparatus to B68.5, *CHG* I p. 265. Also e.g. *τὰ τραύματα θεραπεύσεις ὡς εἴρηται*, M127 = B52.8, *CHG* I p. 232 app.

⁸⁹ M916, *CHG* II p. 90; M1011, *CHG* II p. 96; M107, *CHG* I p. 90; M1027, *CHG* II p. 98, the omission due to homoioteleuton.

⁹⁰ Zilliacus notes that in certain *Lives* of saints, *κόμης σταύλων* is replaced by *ἵπποκόμος*, 'Das lateinische Lehnwort', 338. *Σταβλίζω*, consistently purged from B, occurs in the appendix to the *De cerimoniis* 487 and 488, along with other loanwords such as *μωλάρια* (*mulae*, mules), *καπούλα* (*scapula*, shoulder), *βοῦλλα* (*bullae*, seal), *φοσσάτον* (*fossatum*, trench), 459–60.

⁹¹ e.g. M473 = B22.13, *CHG* I p. 106.

⁹² e.g. M593 = B37.3, *CHG* I p. 198; M1105 = B35.2, *CHG* I p. 193.

⁹³ e.g. M641 = B75.12, *CHG* I p. 291.

⁹⁴ Chariton, M837, *CHG* II p. 88; Dometillos, M838, *CHG* II p. 89; the river Meles, M225, *CHG* II p. 45.

addressees are copied with care in B, more correctly than in M, evidently out of antiquarian interest,⁹⁵ in contrast, banal words of Latin origin in his text are omitted.⁹⁶ Some changes appear to be influenced by the style of Hierocles.⁹⁷

From Theomnestus' text were removed a number of concrete details, such as the mention of Carnuntum and the Julian Alps—evidently beyond the horizon of the editor.⁹⁸ The text of Pelagonius was abridged in several places, and many of the Latin loanwords employed by the translator removed.⁹⁹ From Eumelus' text were removed long passages prescribing sympathetic application of the animal's own blood, and a cure involving hellebore. The two versions of a treatment for thinness provide an example of the rewriting of his text:¹⁰⁰

Eumelus in M

Τὰ δὲ τῶν τοιούτων σώματα πολλῆς τῆς
τρίψεως δέονται πρὸς τὸ διὰ τῆς τοιαύτης
μαλάξεως πλείονα τῆς τροφῆς αὐτῶν
λαμβάνειν ὀρεξιν. καὶ πρῶτον μὲν χρὴ
φροντίζειν, ὥστε ἐν τόπῳ ξηρῷ τὸ ζῶον
σταβλίζεσθαι. διόπερ καὶ τῷ σώματι καὶ
τοῖς ὀνυξιν αὐτῶν τὸ αὐτὸ συμβάλλεται. χρὴ
δὲ εἰς σανίσιν ἢ κόχλαξι τὸ χάμαι
καταστρώννυσθαι πρὸς τὴν τῶν ποδῶν
σκληρώσιν. καθεύδουσιν δὲ αὐτοῖς ἄχυρον
ὑποστρωννύσθω. τῇ δὲ τροφῇ καὶ ὄροβος
μιγνύσθω.

Eumelus in B

Τὰ δὲ τῶν τοιούτων σώματα πολλῆς τῆς
τρίψεως δέονται πρὸς τὸ δι' αὐτῆς πλείονα
τὴν ὀρεξιν τῆς τροφῆς λαμβάνειν. χρὴ δὲ καὶ
ἐν τόπῳ ξηρῷ αὐτὰ ἵστασθαι· τοῦτο γὰρ καὶ
τῷ σώματι καὶ τοῖς ὀνυξιν αὐτῶν
συμβάλλεται. προσμιγνύσθω δὲ τῇ τροφῇ καὶ
ὄροβος. καὶ καθεύδουσι δὲ αὐτοῖς ἄχυρον
ὑποστρωννύσθω.

⁹⁵ *δικουρίωνι* M554, *δεκουρίωνι* B62.1, *CHG* I p. 252 and M663 = B104.5, *CHG* I p. 362; *Τομίτη* M533, *Τομεί* B6.1, *CHG* I p. 43; *Ἐξτω Νουμερίω* M74, *Σέξτω Νουμηρίω* B10.3, *CHG* I p. 57; *Φιλαμμεροντίω* M86, *Φλαμμαρονντίω* B13.1, *CHG* I p. 77; *Δετουλίω* M896, *Γετουλλίω* B116, *CHG* I p. 375; *Κελέρτη* M759, *Κέλερ* B129, *CHG* I p. 385. Evidence of antiquarian interest in Roman military titlature in the 10th c.: *Costantino Porfirogenito De thematibus*, ed. A. Pertusi (Vatican, 1952), proem., pp. 59–60.

⁹⁶ e.g. *ῥωσμάρινον* (*rosmarinum*, rosemary) M573 = B36.5, *CHG* I p. 196 app.; *ἀπιουσήμεν* (*apii semen*, celery seed) M63, *CHG* II p. 36; *καστρήσιον* (*castrensis*, of a camp) M94, *CHG* I p. 267 app.; *γοῦττα* (*gutta*, drop) M952 = B96.19, *CHG* I p. 333.

⁹⁷ e.g. *Aps.* M347 = B39.1, *CHG* I p. 204; *μαγδαλιάς* changed to *μάζας* as in Hierocles B39.2, *CHG* I p. 205. *Aps.* M684 = B65.1, *CHG* I p. 258: *Apsyrthus'* *ἐμβιβάζειν* changed to *ἐμβιβαζέσθω* as in Hierocles B65.2, *ibid.*

⁹⁸ M319 added in text of B34, *CHG* I pp. 183–4. Another instance of contraction of geographical horizons: Carthage is changed to Chalcedon M33.8, *CHG* I p. 168 app. and 33.14, *CHG* I p. 172.

⁹⁹ e.g. *πρὸς τραχίλους μούλων* changed to *περὶ ἐκβολῆς σπονδύλου*; M1128, B26.28, *CHG* I p. 135. *Σταβλίζω* changed or omitted throughout; also omitted are e.g. *τρακτόν* M189 = B26.23, *CHG* I p. 133 app.; *λάμνα* M673 = B114.11, *CHG* I p. 365 app.

¹⁰⁰ M88, B68.4, *CHG* I p. 265.

Their bodies require much rubbing-down, so that through such massage they gain more appetite for their feed. And it is necessary to take care first that the animal is stabled in a dry place. For this benefits their body and their hooves equally. The ground should be covered over with wood or pebbles for the hardening of the feet. Let chaff be strewn under them when they lie down. And let vetch be mixed with the feed.

Their bodies require much rubbing-down, so that through this they gain more appetite for feed. And they ought to be made to stand in a dry place, for this benefits their body and their hooves. And let vetch be mixed into the feed, and let chaff be strewn under them when they lie down

Hippocrates comes off worst of all with numerous excerpts omitted, and a thorough rewriting of those that were retained. Two excerpts from his chapter on a type of colic (*περὶ εἰλεώδους*) illustrate the way the text was polished:¹⁰¹

Hippocrates in M

Ιλεώδης δὲ γίνεται, ὅταν χορτασθῇ. ἔστιν δὲ κάκιστον τὸ πάθος ὅταν χορτασθῇ καὶ μὴ πέψῃ. γίνεται ἐν τῷ κώλῳ ὥσπερ λίθος . . .

ἐὰν δὲ μὴ παρασκευάσῃται τὸ σφῆνωμα, τὴν χεῖρα καθετέον λελειασμένην καὶ ἐκκομίζειν τὰ ἐμφράγματα . . .

Ileodes occurs when it eats its fill. The disease is very bad when it eats its fill and does not digest. In the colon it becomes like a rock . . .

If the blockage is not eliminated, the hand should be inserted, greased, to take out the blockage . . .

Hippocrates in B

Εἰλεώδες γίνεται, ὅταν εἰς κόρον ἐμπλησθῇ ζῶον καὶ μὴ πέψῃ. γίνεται δὲ ἐν τῷ κώλῳ ὥσπερ λίθος, καὶ ἔστι κάκιστον τὸ πάθος . . .

ἐὰν δὲ μὴ ἀποσκευάσῃται τὰ ἐνοχλοῦντα περιττώματα, τὴν χεῖρα ποιήσας λιπαράν, κάθεσ εἰς τὴν ἔδραν, καὶ ἐκκόμιζε αὐτά . . .

Eileodes occurs when an animal fills itself to surfeit and does not digest. For in the colon it becomes like a rock, and the disease is very bad.

If the troublesome faeces are not eliminated, greasing your hand, insert it into the anus, and remove them.

THE C RECENSION

C and L are considered to be derived from the same lost ancestor, D. Although they share most of their content, they are different in character, and for this reason we shall consider them separately. The core of text in CL is that of the B recension. Oder and Hoppe point out, however, that C and L cannot be derived from the B codex itself, since both manuscripts contains the three chapters omitted, apparently by accident, from B.¹⁰² What was the archetype

¹⁰¹ M1124, *CHG* II p. 111 and B126.1, *CHG* I p. 382; M624, *CHG* II p. 78 and B126.3, *CHG* I p. 383; cf. also *περὶ στρόφου* M587 = B45.3, *CHG* I p. 217.

¹⁰² *CHG* II pp. xxiv-xxv.

of D? It is unlikely that Phillipps 1538 is the first copy of the B recension: it is difficult to imagine that the beautiful calligraphy was executed at the same time as the metaphrasis was being dictated. There probably existed a draft of the text from which the presentation manuscript was copied: it evidently contained the three chapters missing from the numbered series in B, but present in C.

Such a draft may have circulated more freely; it need not have circulated very far, since the nature of the texts added to C points to a date and place of compilation fairly close to that of B. The *Kestoi* of Julius Africanus were available in the tenth century to the editors who incorporated excerpts from them into the compilation of the military tacticians.¹⁰³ One of the manuscripts of this collection, Florence, Laurentianus Plut. 55. 4, is a product of the imperial scriptorium, part of the same group as B.¹⁰⁴ Indeed, three passages of Africanus appear both in the *Hippiatrica* and in the *Tactica*.¹⁰⁵ Björck has already suggested that the borrowings from human medicine in C were drawn from a compilation rather than individually from Oribasius, Aëtius, and Paul of Aegina.¹⁰⁶ We may observe that these same Late Antique medical manuals were used for the tenth-century compilation of Theophanes Chrysobalantes, another work dedicated to Constantine VII.¹⁰⁷ In the *Epitome de curatione morborum* of Chrysobalantes, material from older medical encyclopaedias is paraphrased and presented anonymously, as it is for the most part in C. And indeed, a number of the anonymous additions to C may be found in Chrysobalantes as well. These passages appear in the same order in C as they do in Chrysobalantes, a result of the mechanical process of excerpting.¹⁰⁸

The list of horse-breeds in C was also used by the compiler of the *Bestiary* dedicated to Constantine VII.¹⁰⁹ Whereas the list is alphabetized in C, in the *Bestiary*, the first breed described is the Libyan—an indication of the origin of the compiler of the list?¹¹⁰ Other excerpts in C may have come from the

¹⁰³ Vieillefond, *Les 'Cestes'*, 77 ff., 215 ff.

¹⁰⁴ Irigoin, 'Pour une étude des centres de copie byzantins II', 178–9. As in the case of B, bands of decoration have been removed.

¹⁰⁵ Vieillefond I.6 ἱππον τιθάσι, I.9 ἱππον μὴ πτοεῖσθαι, I.13 πρὸς ἡμίονον λακτίζουσιν. B84, CHG I pp. 381–2, appears in Africanus as well.

¹⁰⁶ 'Zum CHG', 41.

¹⁰⁷ Ed. J. Bernard (Gotha and Amsterdam, 1794–5), reprinting the text of H. Martius (Strasbourg, 1568). There is no modern edition of the text. On the extensive manuscript tradition, see J. A. M. Sonderkamp, *Untersuchungen zur Überlieferung der Schriften des Theophanes Chrysobalantes* (sog. *Theophanes Nonnos*) (Bonn, 1987), also, idem, 'Theophanes Nonnus: Medicine in the Circle of Constantine Porphyrogenitus', *DOP* 38 (1984), 29–41.

¹⁰⁸ e.g. C11.10 = Chrysobalantes ch. 87, p. 290; C12.2 = Chrys. ch. 123, p. 376; C33.3 = Chrys. ch. 132, p. 416.

¹⁰⁹ Ed. Lambros, II. 588–609.

¹¹⁰ The Libyan breed is not described in complimentary terms, however; but cf. Aelian, *HA* III.2.

Bestiary, namely those which appear to be from Aelian but are either anonymous or attributed to another author.¹¹¹

The organization of C, with information on the choice and breeding of the horse first, followed by medical treatments, may well be modelled upon *Geoponica* XVI (i.e. Anatolius). That the two compilations were felt to be somehow related is attested by the addition to chapter XVI of the tenth-century recension of the *Geoponica*, of the names of authors from the *Hippiatrica*.

In the *Souda*, Simon of Athens is associated with veterinary medicine, but the statement on veins attributed to him is in fact a quotation from Vegetius that appears anonymously in C, after the excerpt from Simon.¹¹² This misunderstanding indicates that the fragment of Simon's text was already included in the *Hippiatrica* by the late tenth century (if we may assume that is when the *Souda* was compiled). The *Souda* also contains an incantation for donkeys with dysury that appears in C.¹¹³ It has been established that the compilers of the *Souda* drew upon the encyclopaedia of statecraft or *Excerpta* compiled for Constantine VII, and also a version of the poetic encyclopaedia compiled by Constantine Cephalas, the precursor of the Palatine Anthology;¹¹⁴ it is not surprising that they should have used a new edition of the veterinary compilation as well. It seems likely that the Apsyrtus entry in the *Souda* was compiled at this time too.

Shared source-material thus appears to link C with a number of tenth-century compilations—the *Tactica*, the medical manual of Chrysobalantes, the Bestiary, the *Souda*—not least of which is the B recension. The 'recycling' of sources in different compilations is characteristic of the Middle Byzantine period.¹¹⁵ C was probably produced not long after B, by someone with access to the imperial library.¹¹⁶ It is also typical of Middle Byzantine compilations

¹¹¹ C10.1, anonymous, *CHG* II p. 140; C24.6, attributed to Africanus, *CHG* II p. 161 = Ael. XI.18, Bestiary. ed Lambros, II.620.

¹¹² *Souda*, s.v. *τρίλλη* (Adler, T 987) and *Κίμων* (Adler, K 1621); Vegetius C93.24 = Veg. Lat. III.4.

¹¹³ C24.5, *CHG* II p. 161. *Souda*, s.v. *Μύξος* (Adler, M 1419) (= Heim, *Incantamenta magica* no. 103): *ἐπωδὴ. ἀλέκτωρ πίνει καὶ οὐκ οὐρεῖ, μύξος οὐ πίνει καὶ οὐρεῖ. λέγεται δὲ εἰς δυσουρίαν ὄνου*. Also s.v. *ἀλέκτωρ πίνει* (Adler, A 1115).

¹¹⁴ C. de Boor, 'Suidas und die konstantinische Exzerptsammlung', *BZ* 21 (1912), 381–424 and *BZ* 23 (1914–19), 1–127; Cameron, *The Greek Anthology*, 22 n. 6.

¹¹⁵ Ševčenko, 'Re-reading Constantine Porphyrogenitus', 189–91: same sources used in the *De administrando imperio* and in Theophanes Continuatus, where they are paraphrased into higher style; Late Antique historians used only via the historical *Excerpta* for the *DAI* and the *Vita Basilii*, etc.

¹¹⁶ Two other compilations of the 10th c., the *Tactica* of Leo VI and the *Book of Ceremonies*, seem to have been revised shortly after they were assembled: see A. Dain, 'Inventaire raisonné des cent manuscrits des "Constitutions tactiques" de Léon VI le Sage', *Scriptorium*, 1 (1946–7), 40–5; M. Featherstone, 'Further Remarks on the *De Cerimoniis*', *BZ* 97 (2004), 113–21.

that the sources added to C are of Late Antique rather than medieval date.¹¹⁷ The only exception, namely the single contemporary source named in C, is the Patriarch Theophylact (Pl. 11), to whom two recipes are attributed.¹¹⁸ Son of the usurper Romanus Lecapenus, promoted to the patriarchal throne at the age of 16, Theophylact was notorious for his love of horses, which Gustave Schlumberger called ‘digne d’un grand seigneur anglais’.¹¹⁹ According to the twelfth-century historian Cedrenus, Theophylact maintained a stable of a thousand horses, fed them on almonds, dates, and pistachios, and left the cathedral of St Sophia in the middle of the liturgy to attend to the foaling of his favourite mare.¹²⁰ Since there seems to be no cause to doubt any of the attributions in C, it follows that the recipes attributed to Theophylact should be genuine.¹²¹ His reputation as a churchman may not have been above reproach; as a horseman, however, he was an authority to be heeded. The two recipes are not only a more vivid legacy of this colourful character than the patriarchal documents issued under his name; but they also provide a further indication that C was produced in Constantinople. Theophylact was patriarch in 933–56 and died in 962; since he is not referred to in the lemmata as deceased, C may in theory have been produced at any time after he became patriarch in 933, but since it draws upon the B recension, probably belongs after 945 when Constantine VII (the patron of the B recension) assumed sole rule.

One may wonder why treatments borrowed from human medicine were added to the veterinary compilation: were there no more hippiatric treatises (old or new) available? Or were the medical texts just conveniently at hand? The additions are very diverse in character. A few short recipes include *materia medica* such as camphor and sandalwood which became commonly

¹¹⁷ Cf. Lemerle, ‘L’encyclopédisme à Byzance’, 615.

¹¹⁸ *Ἀντίδοτον νεφρικόν* C21.5, *CHG* II p. 158; *περί σειράματος* C80.22, *CHG* II p. 221. The kidney remedy contains nutmeg (*καρυόφυλλον*), which is not prescribed by the Late Antique veterinary writers.

¹¹⁹ *Un empereur byzantin du dixième siècle: Nicéphore Phocas* (Paris, 1890), 15.

¹²⁰ Ed. Bekker, II pp. 332–4; the scene is illustrated in the Madrid Skylitzes, fo. 137^r. Theophylact’s stable was near St Sophia, and was converted by Constantine VII into an old people’s home; Theophanes Continuatus, ed. Bekker, p. 449.

¹²¹ One wonders whether any of the anonymous excerpts in C may be ascribed to Theophylact; certainly a good candidate would be C10.3: *ἐὰν μὴ δύναται γεννήσαι ἵππος, γράψον εἰς τὰς δύο πλευρὰς αὐτῆς τὸν τεσσαρακοστὸν ἔβδομον ψαλμὸν ἕως τοῦ ἐκεῖ ὠδίνες ὡς τικτούσης*, ‘If a mare is unable to give birth, inscribe on her two flanks Psalm 47 as far as “there, pain as of a woman in travail”’, *CHG* II p. 141. Cedrenus’ disapproving remarks are also echoed in an anonymous recipe entitled *σύνθεμα ἵππων*, which contains pine-nuts (designated by the late word *κουκουνάρια*), almonds, raisins, dried figs, pistachios, dates, saffron, cloves, dried ginger, tragacanth, hyssop, marjoram, pepper, cinnamon (called *τροψίδιον*), must, and sweet wine: C56.7, *CHG* II p. 187.

used only after the Arab conquest.¹²² Finally, cameo appearances are made by Sophocles;¹²³ John Chrysostom;¹²⁴ Homer;¹²⁵ and Aristotle.¹²⁶

Whereas the text of B is confined almost exclusively to veterinary material, the C recension is more varied in nature. In the first place, it contains three descriptions of the points of the horse: those of Simon, Theomnestus, and the anonymous passage attributed by Oder to Anatolius, but which, as we have seen, probably comes from another agricultural manual of the same family, such as that of Tiberius, which was certainly used by the compilers of B, C, and L. The excerpt from Simon (Pl. 10) is the ultimate source of all the later descriptions of conformation. One wonders where the editors of C found Simon's text. There is also much more material about breeding and the care of mare and foal, from Aristotle, Africanus, and Apsyrus.¹²⁷ Another excerpt from Aristotle adds information on feeding and watering.¹²⁸ Fragments from Vegetius in Greek translation describe veins and bloodletting, and the ages attained by different breeds.¹²⁹ Theomnestus' instructions for grooming and training round out these non-veterinary elements, which give C the character of a general manual on horse-care.

In contrast to B, the C recension teems with magic and superstition. The most notable source of this sort of advice is Julius Africanus.¹³⁰ In the excerpts from the *Kestoi* are eye of frog (as an amulet against eye problems), brain of dog (for fractures), and mystical pentagons of ἐφέσια γράμματα to be inscribed on the hoof.¹³¹ In fact, in terms both of content and of style, the father of Christian chronography fits in rather well among the hippiatric authors. His sources appear to have included agricultural manuals: he mentions the Quintilii,¹³² used by Hierocles and in the *Geoponica* as well. Africanus himself was used by Anatolius. Elements of Africanus' sympathetic remedies are

¹²² Camphor (καφόρα) and sandalwood (σάνδαλον) C58.5, CHG II pp. 192–3.

¹²³ C10.1, CHG II p. 141 (via Aelian).

¹²⁴ C16.3, CHG II p. 154.

¹²⁵ C10.5, CHG II pp. 141–2.

¹²⁶ C10.10, CHG II p. 143 = Arist. HAV 545b; C75.1, CHG II pp. 214–15 = Arist., HAV VII (VIII) 595b (interestingly, not from the *Epitome* of Aristophanes of Byzantium).

¹²⁷ C10, CHG II pp. 140–6.

¹²⁸ C78.1, CHG II pp. 214–15.

¹²⁹ C7.1, CHG II p. 134; C94.24–6, CHG II p. 239. On the translation of Vegetius, see Ortoleva, *La tradizione manoscritta della 'Mulomedicina'*, 61–8.

¹³⁰ On Africanus in C, Vieillefond, *Les 'Cestes'*, 220.

¹³¹ ὀφθαλμοὶ δὲ βατράχου ζώντος ἀφαιρεθέντες καὶ περιαφθέντες ἐν λινῷ ῥάκει, C8.9, CHG II p. 138; κυνὸς ἐγκέφαλος κατάγμα ποροὶ ἡμέρας ἰδ' εἰς ὀθόνιον ἐγχρισμένος καὶ ἐπιτιθεμένος . . . C62.2, CHG II p. 193 κύκλῳ ὅπλῃς †προπλοτέρου (= προτέρου) ποδὸς εὐωνύμου χειρὶ εὐωνύμῳ εὐωνυμογραφία ἐγχάραττε χαλκῷ . . . ἡ γραφή δὲ κείται ἐν τῷδε τῷ ὑποκειμένῳ πενταγώνῳ . . . C81.10, CHG II p. 225.

¹³² *Kestoi* II.3.

similar to Apsyrtus' magic, for example in the use of snakes.¹³³ Africanus' literary taste links him to Hierocles; both men seem to have used similar miscellanies as sources for horsey anecdotes and information, and Africanus' text also presents parallels with Timothy of Gaza, ps.-Oppian, and Aelian.¹³⁴ A remedy for dysuria attributed to Africanus in C is found in Aelian; the passage is also present in the Bestiary of Constantine VII (from Aelian).¹³⁵

Africanus in C

Ἐὰν ἵππου τὰ οὖρα ἐπισχεθῇ, παρθένος
λύσσασα ἤν φορεῖ ζώνην, τυψάτω αὐτὸν κατὰ
τοῦ προσώπου τῇ ζώνῃ, καὶ παραχρῆμα
ἐξουρήσει ἀθρόως, καὶ ἡ ὁδὸν παύσεται.

If a horse's urine is retained, let a maiden, loosing the girdle she is wearing, strike it in the face with the girdle, it will immediately urinate copiously, and the pain is relieved.

Aelian

Λέγεται δὲ καὶ ἵππος τὰ οὖρα εἰ ἐπισχεθείη,
παρθένος λύσσασα ἤν φορεῖ ζώνην ἐὰν αὐτὸν
παΐσῃ κατὰ τοῦ προσώπου τῇ ζώνῃ,
παραχρῆμα ἐξουρήσιν ἀθρόως καὶ τῆς ὁδὸν
παύεσθαι.

It is said that if a horse's urine is retained, if a maiden, loosing the girdle she is wearing, strikes it in the face with the girdle, it immediately urinates copiously, and is relieved from pain.

Excerpts from Africanus include descriptions of exotic practices such as that of branding horses with leopard-spots; this practice is alluded to in ps.-Oppian's *Cynegetica*.¹³⁶

δίχα δὲ χρωμάτων τὴν τρίχα εἰς ὄψιν ἑτέραν ἐπὶ τῷ ζώῳ χαλκεύει τὸ πῦρ καὶ τὴν τοῦ ἵππου ποικιλίαν ψεύδεται. Λευκόψαρος ἵππος (ὄνομα δὲ χρώματι τοῦτο) καταγράφεται τὸν τρόπον τοῦτον· καυστήρ στρογγύλος ἐν μέσῳ κοίλος εἰς τὴν τοῦ ὀ στοιχείου περιφέρειαν εἰλούμενος πυρῶθεις καταδεδεμένῳ τῷ ἵππῳ ἐπιτίθεται κατὰ θέσιν καὶ ἄρσιν. ὁ μὲν οὖν κύκλος ἔξωθεν μέλας, τὸ δὲ ἀρχαῖον μένον ἐξ αὐτοῦ σῶμα πάρδαλιν ψεύδεται, ἐπὶ τε πόδας καὶ ἐπ' αὐχένα συντεθείς.

Without dyes, fire forges a different appearance in the coat, and counterfeits the markings of the horse. A fish-white horse (this is the name of a colour) is inscribed in this way: a round branding-iron, hollow inside, with its circumference curled into the letter O is fired and applied, placing and raising it, to the horse which has been tied up.

¹³³ Africanus, *Kestoi* I.12, cf. Aps. M1026, *CHG* II p. 98.

¹³⁴ See Wellmann, 'Pamphilos', 50 ff., also C44.4, *CHG* II p. 177 with comments of Oder-Hoppe.

¹³⁵ C24.6, *CHG* II p. 161; Ael. *HA* XI.18, Bestiary ed. Lambros II.620. In Aelian the remedy is associated with a passage on the vanity of mares, with an allusion to Sophocles' *Tyros*, that also appears in C10.1.

¹³⁶ C44.5, *CHG* II p. 178. Cf. ps.-Oppian I. 324–7:

τοὶ δ' ἄρ' ἐὺτροχάλοισι περὶ δρομα δαιδάλλονται
σφραγίσιν πυκνῆσαν ὁμοίᾳ πορδαλίεσσιν
τοὺς ἔτι νηπιάρχους γράψαν τεχνήμονες ἄνδρες
αἰθόμεν χαλκῷ ταναῆν τρίχα πυρσεύοντες.

The circle is black outside, and the original body remaining without counterfeits a leopard, when this is applied to the legs and the neck.

Africanus' dark portrayal of the character of the horse (also included in the *Tactica*) forms a nice contrast with Hierocles' fulsome encomium:¹³⁷

Σπανίως, ὡς ἐν ἀνδράσιν, οὕτως δὲ καὶ ἐν ἵπποις εἰλικρινὴς ἐστὶν ἀρετὴ. ἐγγὺς τοῖς ἀγαθοῖς κακία, βάσκανος, ἵνα μὴ τὸ καλὸν καθαρὸν φανῇ . . . τραχεῖς, ἀλλ' ἔρωτικοί, θηρευταί, ἀλλὰ στομίαι, βαδισταὶ καὶ ὑβρισταί. τοὺς ἀναβάτας ἄλλοι οὐ δέχονται, οἱ δὲ ἀποσεύονται. παρατρίβουσι ἔνιοι τοίχοις ἢ φυτοῖς.

Rarely, as amongst men, is there sincere virtue in horses. For alongside goodness there is vice, jealousy, so that the good does not show clear . . . they are rough, but passionate; hunters, but hard-mouthed; amblers and arrogant. Some do not accept their riders, others shake them off; while some rub against walls or plants.

A good deal of Africanus' advice is in fact purely medical in nature; we have seen for example that his remedy for cough is very close to one recommended by Eumelus. Vieillefond has observed that long quotations from Africanus appear unaltered in C, while short passages tend to be summaries.¹³⁸

THE L RECENSION

The L recension, published in a barely comprehensible form as notes and excerpts in eighteen pages of the Teubner edition, and dismissed as secondary in value to C,¹³⁹ is nevertheless interesting evidence of a certain kind of medieval taste. BL Sloane 745 provides a *terminus ante quem* of the thirteenth century for this recension. The organization of the text in L bears witness to a substantial effort on the part of the editor to introduce a greater degree of structure into the collection of texts. His work displays an intensification of tendencies evident in the B recension: first, the prominence accorded to Hierocles in B is carried a step further, and Hierocles assumes first place in the hierarchy of authors (Pl. 12). The juxtaposition of Apsyrtus and Hierocles in B invites the reader to compare their texts; in L the editor has already made the comparison and reports on his view of their relationship. His comments reveal that where the texts of Apsyrtus and Hierocles were similar, the editor, no doubt influenced by the elegance of Hierocles' text, preferred to eliminate Apsyrtus, the source, rather than Hierocles, the adaptor. Hierocles' dependence upon Apsyrtus is not considered a fault (as it was by the editor of M), or perhaps it is simply misunderstood:

¹³⁷ C81.8, CHG II pp. 224–5. Hierocles' encomium figures in L, fo. 145^v, but not in C.

¹³⁸ Les 'Cestes', 222.

¹³⁹ CHG II p. xxvii.

ἡ δὲ θεραπεία, ὁμοία κατὰ πάντα καὶ ἐξισάζουσα τῷ Ἱεροκλεῖ. Προσέθηκε δὲ τοῦτο Ἀψυρτος.¹⁴⁰

The treatment is entirely similar and equivalent to [that of] Hierocles. Apsyrtus adds this:

ἡ δὲ τοιαύτη ἐρμηνεία ἀπαρallάκτως προγέγραπται τῷ Ἱεροκλεῖ ὡς ἐκ προσώπου Ἀψύρτου, ἕως τοῦ αἱμορραγεῖν.¹⁴¹

The same interpretation has already been written in precisely similar terms by Hierocles as though in Apsyrtus' voice, as far as 'haemorrhaging'

καὶ ἡ λοιπὴ θεραπεία ὁμοία τῇ προγραφείσῃ τῷ Ἱεροκλεῖ. ταῦτα γὰρ καὶ Ἀψυρτος καὶ Τιβήριος ὁμοφωνήσαντες τῷ Ἱεροκλεῖ καὶ διέγνωσαν καὶ γραφῇ παραδεδώκασιν, ἣν ἡμεῖς διὰ τὴν πολυγραφίαν παραλελοίπαμεν.¹⁴²

The rest of the treatment is similar to the one already described by Hierocles. Apsyrtus and Tiberius, agreeing with Hierocles, read these things and passed them on in writing; we have omitted them on account of the repetition.

This sort of presentation represents the abandonment of the excerpt collection format in favour of a more analytical presentation of earlier material.¹⁴³

Another comment reveals the editor's opinion of the veterinary authors:

προγέγραπται παρὰ τοῖς ἄλλοις φιλοσόφοις¹⁴⁴

it has already been written by the other philosophers (Pl. 13).

The term *φιλόσοφος* 'philosopher' here is used in the 'popular' sense that it acquired in the Byzantine period, and simply denotes a sage or an educated man: in popular imagination, *φιλόσοφοι* and *ρήτορες*, 'orators', were associated, as wise men.¹⁴⁵ In addition to a taste for style over substance, the editor displays a lack of scruple in the attribution of excerpts. The largest number of false attributions are to Hierocles and Africanus. Hierocles was evidently considered by the editor of L not only an important veterinary authority, but also a 'philosopher'. Africanus was a figure of more widespread legendary reputation; there are also excerpts falsely ascribed to him in the *Geoponica*.¹⁴⁶ In addition to Hierocles and Africanus (who are, after all, real sources of the text), the names

¹⁴⁰ Fo. 114^r.

¹⁴¹ Fo. 77^r

¹⁴² Fo. 103^r.

¹⁴³ One may compare, for example, the presentation of opinions in the so-called 'Anonymus Parisinus', a compilation of the Imperial period: *Anonymi medici De morbis acutis et chroniis*, ed. Ivan Garofalo (Leiden, New York, Cologne, 1997).

¹⁴⁴ Fo. 85^v.

¹⁴⁵ On this use of the term see F. Dölger, 'Zur Bedeutung von *φιλόσοφος* und *φιλοσοφία* in byzantinischer Zeit', *Byzanz und die europäische Staatenwelt* (Ettal, 1953), 197–208.

¹⁴⁶ 'Africanus, au Moyen-Age, était devenu un personnage mystérieux ... au cours des temps on lui a prêté bien d'autres œuvres, toutes apocryphes', Vieillefond, *Les 'Cestes'*, 28, also pp. 69–70 on the *Geoponica*, pp. 218 ff. on L.

of a motley assortment of sages and sophists displace the names of the horse-doctors in the lemmata of L. A certain χωρικός to whom a remedy is attributed in C becomes Choricus the Sophist in L.¹⁴⁷ The name of Herodotus is added to the lemma of an excerpt from Pelagonius which began simply ἄλλο.¹⁴⁸ The Apollonius of C is transformed into Apollonius of Tyana,¹⁴⁹ the first-century Neopythagorean ascetic who, like Vergil, was considered in the Middle Ages to have been a magician.¹⁵⁰ Writings of an occult nature were attributed to Apollonius;¹⁵¹ moreover, he was believed to have endowed statues in Constantinople with apotropaic powers. The *Patria* of Constantinople credit him with the στοιχείωσις or 'enchantment' of various parts of the hippodrome; other writers attribute to him an image of a horse which calmed the unruliness of real horses and silenced their neighs.¹⁵² As he was associated with horses and the hippodrome, it might have been natural for the editor of L (working at the capital, where these legends were in the air) to identify the Apollonius of the text as the sage from Cappadocia, and add another famous name to his collection of 'philosophers'.

THE RV RECENSION

The oddly assorted texts which make up the RV recension represent in some sense a synthesis of trends which we have seen in the major recensions M, B, C, and L, with the vernacular *Epitome*. The selection of texts in RV provides a vivid illustration of the diglossia of the late Byzantine period: in both manuscripts, the treatise of Hierocles is followed by the *Epitome*, a juxtaposition of the most pretentious Greek veterinary manual with the one that is least pretentious. The two treatises are presented as a single work under a title which expresses both a taste for rhetoric and that for illustrious authorities from the past (along with an inability to spell their names):

¹⁴⁷ C57.2 and app. for reading of L, *CHG* II p. 188.

¹⁴⁸ M306 and app. for reading of L, *CHG* II p. 54.

¹⁴⁹ C24.3 and app. for reading of L, *CHG* II p. 160; another instance L, fo. 161.

¹⁵⁰ Cf. W. Speyer, 'Zum Bild des Apollonios von Tyana bei Heiden und Christen', *Jahrbücher für Antike und Christentum*, 17 (1974), 47–63; W. L. Dulière, 'Protection permanente contre les animaux nuisibles assurée par Apollonius de Tyane dans Byzance et Antioche: Évolution de son mythe', *BZ* 63 (1970), 247–77. On Vergil, see V. Peri, 'Βιργίλιος = sapientissimus. Riflessi culturali latino-greci nell'agiografia bizantina', *Italia medioevale e umanistica*, 19 (1976), 1–40.

¹⁵¹ e.g. a βίβλος ἀποτελεσμαίων, ed. F. Boll, *CCAG* VII (Brussels, 1908), cod. 26, pp. 174–81. As *Balīnās al-hakīm*, Apollonius is credited with the authorship of a work in Arabic on the anatomy and habits of animals, as well as an agricultural manual. See Sezgin, *GAS* III. 354–5.

¹⁵² Hesychius, *Patria* in Preger, *Scriptores originum Constantinopolitanarum* (Leipzig, 1907), I. 11; ps.-Codinus, = *ibid.* III. 191; Malalas, ed. L. Dindorf (Bonn, 1831), p. 264; Cedrenus I. 346 and 431; cf. C. Mango, 'Antique Statuary and the Byzantine Beholder', *DOP* 17 (1966), 61; and G. Dagron, *Constantinople imaginaire* (Paris, 1984), 104–15.

Ἱππιατροσόφιν τοῦ σοφοῦ ῥίτορος Ἱεροκλέους καὶ Ὑποκράτους καὶ τοῦ σοφοῦ Γαλινοῦ (*sic*) (Pl. 18).¹⁵³

Horse-medicine-wisdom of the wise orator Hierocles and Hypocrates and the wise Galin (*sic*).

Other developments, too, recall the character of L: in the excerpts from Apsyrtus, epistolary greetings are rewritten so that Roman soldiers become philosophers and kings. A number of magical and religious remedies enlist the aid of Christ and the saints; others invoke pagan philosophers and deities. An innovation, in RV, is the presence of illustrations. The origins of the various elements of RV present a number of puzzles. In what context was the treatise of Hierocles reconstituted? Why was it copied together with the *Epitome*? When were the illustrations added to the two texts? What is the relation of the two treatises with the excerpts in the third part of RV? Connections to both Cyprus and South Italy may shed light on the mystery. The manuscripts, both belonging to the fourteenth century, provide a *terminus ante quem* for this recension.

THE RECONSTITUTION OF HIEROCLES

The reconstitution of Hierocles is made up of 121 excerpts divided into two books by a prooimion which, as in the B recension, is placed after the excerpt *περὶ ὑστρίχιδων*. The reconstitution of a treatise out of excerpts is not without parallel: for example, as we have mentioned, Hunayn ibn Ishāq's Arabic translation of the Hippocratic treatise *On airs, waters, places* was made by extracting the Hippocratic lemmata from Galen's commentary on that text.¹⁵⁴ Was the reconstitution of Hierocles made as part of the process of translation? In an Italian translation the reconstitution is associated with the *Epitome* as well. The Italian translation thus seems to have been made from a text related to RV, in which both the text of Hierocles and the *Epitome* were already associated and probably already illustrated. The translator's note, if it refers to Hierocles and the *Epitome*, does not speak of a reconstitution. Moreover, Hierocles' prooimia, and the author portrait that accompanies the prooimion to book II—prominent features of the reconstitution—are not present in the Italian manuscripts. That Latin translations of Hierocles and apparently of the

¹⁵³ In V, fo. 5^r.

¹⁵⁴ Jouanna, 'Remarques sur la tradition arabe du commentaire de Galien, 235 ff.; Diller, *Hippocratis De aere*, 9–10; idem, 'Die Überlieferung der hippokratische Schrift *Περὶ ἀέρων ὑδάτων τόπων*', *Philologus*, Suppl. 23.3 (1932), 104–5; 113–14.

Epitome as well were made by Bartholomew of Messina may explain the odd pairing of the two treatises in Greek and Latin manuscripts produced in the West.¹⁵⁵ Only a complete collation of the text of the two translations with the Greek text of RV will provide an answer.

In the meantime, we may review the other possibilities for the origin of the reconstitution of Hierocles. Doyen-Higuet has observed that the composition of the text cannot be explained as the result of a skimming of excerpts of Hierocles from L, since numerous excerpts in the reconstitution are absent from L.¹⁵⁶ It is also not made up of the Hierocles passages discarded from M, since much material is common to RV and M. On the other hand, the evidence of the B recension implies that a recension of the *Hippiatrica* very close to A was subjected to decomposition and rearrangement in the tenth century. The texts of the seven authors, cut up or copied onto slips, were reorganized; to them were added excerpts from Tiberius. Since the reconstitution of Hierocles appears in both R and V in the company of excerpts from Apsyrtus and Tiberius—many of the last not used in B—one might imagine that RV is a by-product of the B recension, put together out of leftover materials, possibly at a later date. The text certainly represents another manifestation of the favourable view of Hierocles evident in the B and L recensions. In addition, the reconstitution of Hierocles is an attractive spin-off from the larger compilation; it may have been created as a presentation copy of the text. It is possible that illustrations were added to make a presentation copy more attractive; that the pictures are more decorative than informative lends some weight to this view. RV contains a portrait of Hierocles (Pl. 16), oddly placed in the middle of the treatise before the prooimion to the second book; perhaps another portrait or a dedication preceded the first book.

The presence of the *Epitome* along with the reconstitution of Hierocles in RV presents a paradox. The *Epitome* is more closely related to M than to B, and represents the opposite of the taste for rhetoric which one might see as the motivation for the reconstitution of Hierocles. Whereas the selection of excerpts from Apsyrtus and Tiberius was interpreted by Björck as an attempt to complement Hierocles' text with additional information, the *Epitome* simply repeats much of the material in Hierocles in a plainer style. The two texts must have been produced to suit very different tastes or needs and united at a later date.¹⁵⁷ Perhaps the contrast in style between the two texts

¹⁵⁵ On Bartholomew's translation of the *Epitome*, see Fischer, 'A horse! a horse!', 132–3.

¹⁵⁶ 'Un manuel grec', p. 40.

¹⁵⁷ Cf. E. Kriaras, 'Diglossie des derniers siècles de Byzance: Naissance de la littérature néo-hellénique', in J. M. Hussey, D. Obolensky, and S. Runciman (eds.), *Proc. of the 13th Int. Cong. of Byz. Studies* (London, 1967), 299: 'Le public auquel s'adressent les œuvres en langue archaisante diffère de celui qu'intéressent les œuvres en langue plus populaire.'

was not perceived, or not considered important by the person who ordered an illustrated copy of both.

THE EPITOME IN RV

The version of the *Epitome* in RV, according to Doyen-Higuet, does not represent the earliest form of the text. The excerpts in the third part of RV are, however, related to excerpts associated with the earliest version of the *Epitome*, present in three manuscripts, Vaticanus Ottobonianus gr. 338, Vaticanus gr. 1066, and Vaticanus gr. 114.¹⁵⁸ In these three manuscripts, the *Epitome* is preceded by a poem on the points of the horse in dodecasyllabic verse attributed to Simon, Xenophon, and Apsyrus.¹⁵⁹

Whereas the text of other versions of the *Epitome* is largely devoid of personal character, that in the RV recension includes a number of pithy asides. The practitioner should protect himself from the foul smells of certain *materia medica*:

ἄλλο εἰς χορδαψόν κόπρια ἀνθρώπινα καὶ οὖρον καὶ καπρίαν ἀμφότερα ταραξας
ἐγχυμάτιζε, καὶ ὑγιαίνει αὐτίκα.

τοῦτο δὲ νόει, ὅτι τὸ πρῶτον εἶδος μόνον να τὸ ποιήσεις ποιᾶσαι τὴν μήτην σου διατὶ
εἶναι εὐώδες, καὶ σπόγγισε τὰ γένια σου νὰ μηδὲν μίριζουσιν ἀπὸ τὸ καλὸν εἶδος.¹⁶⁰

Another for *chordapsos*. Drench with human and boar faeces and urine, having mixed them up all together, and it will immediately become healthy.

NB When you grasp the first thing, hold your nose, because it is fragrant! And sponge your beard so that it does not smell of the good stuff!

If treatment fails, the horse's death ought to be commemorated with the ritual boiled wheat of an Orthodox memorial service:

ὅταν ἔμφραξις γίνεται ἐν ἵππῳ . . . κλύζε . . . καὶ ἐὰν ἄρξηται λύεσθαι ἡ κοιλία αὐτοῦ,
συντόμως ἐλευθεροῦται, εἰ δὲ μὴ, διαφωνεῖ, τουτέστιν ψοφᾷ. καὶ βράσαι τοῦ κόλυβα νὰ
τὸ μνημονεύσεις.¹⁶¹

When the horse has an impaction . . . give it an enema . . . and if its belly begins to be loosened, it will shortly be relieved; if not, it will die.

That is, it will croak: so boil up *kolyva* to remember it by!

¹⁵⁸ 'Un manual grec', 120 ff.

¹⁵⁹ I hope, in the future, to publish this delightful text.

¹⁶⁰ V54, CHG II pp. 287–8.

¹⁶¹ V51, CHG II 286–7. The last sentence is nearly a 12-syllable verse. On *kolyva*, see A. Scordino, 'I coliva nel typicon di Messina', *Studi Meridionali*, 3 (1970), 271–5.

Alternatively, one can make *boudin noir* from its blood:

ὅταν αἷμα ἐξέρχεται διὰ τῶν ῥινῶν τοῦ ἵππου . . . ταχέως διαφωνεῖ, καὶ μόνον κοπιᾷ.
μάζοξαι τὸ αἷμα αὐτοῦ καὶ ποιήσαι λουκάνικα.¹⁶²

When blood comes out of the horse's nostrils, it dies speedily.

You will only trouble yourself. Collect its blood and make sausages!

These interjections provide a amusing contrast to the formal elegance of Hierocles' prooimion, with which RV begins. No doubt the witticisms were marginal notes in the archetype of RV which became incorporated into the text.

OTHER TEXTS IN RV

The contrast with Hierocles becomes more pronounced in the third part of RV. The collection of excerpts in the third part includes material from the *Epitome*, from Apsyrtus, and from Hierocles, and so might appear to be related to the first two parts of the recension, rather than being an accretion. Yet this third section is not illustrated, and furthermore contains material from sources unrelated to the *Hippiatrica*. The reconstitution of Hierocles and the *Epitome* appear in the company of magical remedies for horses and cows, selections of excerpts from Apsyrtus and Tiberius,¹⁶³ and other excerpts attributed to Galen (many of which are found in other versions of the *Epitome*). In V, this section of the text is grandly but illiterately entitled (Pl. 19):

Ἑτέραι ἡδεῖσσις ὁφέλειμαι εἰς τὰς ἰατρίας τῶν ἵππων, ἐκ πολλῶν ὡς ὁρᾷς
ἀνθολογηθέντων ἐκ πολλῶν ἀλλὰ δεῖ καὶ ἐπιστίμων ἀνδρῶν φιλοσόφων [sic].¹⁶⁴

Other useful notices concerning the healing of horses, gathered (as you see) from numerous learned and wisdom-loving (*philosophon*) men.

The 'philosophers' advertised in this title appear in the garbled greetings of Apsyrtus' letters:

Ἀψυρτος Ἀριστοτέλῃ φίλῳ χαίρειν.¹⁶⁵ (Apsyrtus to his friend Aristotle, greetings).

Ἀψυρτος Δαμνῶτῳ τῷ φιλοσόφῳ χαίρειν.¹⁶⁶ (Apsyrtus to Damnatius the philosopher, greetings).

¹⁶² V56, CHG II p. 288. The last sentence is nearly a 15-syllable verse.

¹⁶³ Tiberius is not named in the lemmata of these excerpts, but may be identified as their author by comparison with B, C, and especially the table of contents of Tiberius' work on cows preserved at the end of the *pinax* of L. CHG II pp. 269–71; Björck, 'Le Parisinus gr. 2244', 513–15.

¹⁶⁴ R fo. 145^r.

¹⁶⁵ R fo. 209^v.

¹⁶⁶ R fo. 176^r (letter addressed to Δαμνάτος Τομεύς, Damnatius of Tomi, in B18.4, CHG I p. 93).

One of Apsyrtus' letters is attributed to Galen:

Φίλος ἄριστος ὁ Γαληνός ὡς γράφει· σπουδέως ἔχων ἐν τῇ ὑποτροφίᾳ καὶ ζητοῦντος τινῶν . . .¹⁶⁷

As most excellent friend Galen writes, 'Being skilled in horse-keeping, and asking certain people . . .'

In addition to philosophers, tyrants and kings appear in the greetings:

Βάρων τυράννων Ἀψυρτος φίλῳ βέλτιστῳ χαίρειν· Πυνθανομένου σου φίλε . . .¹⁶⁸

Varon of the tyrants, Apsyrtus to his most worthy friend, greetings. Since you asked, friend, . . .

This letter is addressed in M to *Τυράνιος* (*Τοράνιος* in B) *Βάρων*.¹⁶⁹ Also worthy of note is the inversion of the antique order of the greeting, in accordance with medieval practice. The adaptation of Apsyrtus' introduction to his collection of recipes for drugs shows the same inversion, and also the fact that *Δέσποτα*, used in Late Antiquity as a form of respectful address or simply to mean 'sir',¹⁷⁰ was, in the medieval period, an imperial title:¹⁷¹

Κέλερ στεφηνφόρῳ δεσπότῃ Ἀψυρτος χαίρειν· Δέσποτα στεφηνφόρε Κέλαρ Ἀψυρτα [sic]. φάσκω τάδε προσαγορεύω σοι γέρας. βούλομαι σε διὰ γραφῶν πολυφθόγγων καὶ ῥήσεων λεξικῶν. συμφυεῖν ἀπαιτούσης τῆς τῶν φαρμάκων βοήθειας.¹⁷²

To Celer, the crowned lord, Apsyrtus, greetings. Crowned lord Celar Apsyrta. I utter these things, I salute you with honours. I desire that you through many-toned writings and lexical utterances connect the aid of drugs that is demanded.

This degeneration of the text into pretentious gobbledegook is reminiscent of passages in the B recension of the *Passion* of St Catherine, a text that has also been associated with South Italy—and in which ancient philosophers and sages also feature.¹⁷³ In RV, Apsyrtus' letters begin to resemble the magical texts with which they are interspersed. Some of these are antique magical formulas in Christian guise;¹⁷⁴ others are pseudo-literary:

¹⁶⁷ R fo. 106^f. ¹⁶⁸ R fo. 207^v.

¹⁶⁹ M73 = B9.1, CHG I p. 53.

¹⁷⁰ E. Dickey, *Greek Forms of Address* (Oxford, 1996), 95 ff.; ead. 'Kyrie, Despota, Domine'.

¹⁷¹ The title was used from the reign of Justinian I: R. Guillard, 'Études sur l'histoire administrative de l'empire byzantin. Le despote, δεσπότης', *REB* 17: 52–89.

¹⁷² R fo. 209^v; cf. M759 = B129, CHG I p. 385: Δέσποτα Κέλερ, τῆς συναφείας ἀπαιτούσης τὴν τῶν φαρμάκων βοήθειαν, ἐπιδείξομέν σοι, ὅσα τε αὐτοὶ καὶ παρὰ τῶν ἄλλων ἐπειράθηνεν βοηθήματα τοῖς ἵπποις.

¹⁷³ Peri, 'Βιργίλιος = sapientissimus'; J. Viteau, *Passions de sainte Écatherine et Pierre d'Alexandrie* (Paris, 1897), 25–39.

¹⁷⁴ V101, 102, 103, CHG II p. 297.

Πρὸς λοιμικὸν πάθος βοῶν.

στίχος διὰ ἰάμβων δωδεκασύλλαβος· πάθος βοῶν πέφυκεν λύμης ἢ νόσος.¹⁷⁵

For pestilential disease of cattle.

A twelve-syllable verse in iambs: Disease of cattle is the sickness of ruin.

Others invoke pagan sages, philosophers, and sorcerers:

Θεσάλη θεσάλη ἐκ θεσσαλίας ἐλθοῦσα πρώτη καὶ εὐρούσα βοτάνας καὶ τὰ ἰσχυρώματα.
Θεσάλη οἷσα λέγω καὶ ἐλεύσομαι ὡς λαίωντος ἔχουσα ἐπωδὴν καὶ θεοῦ Ὀρφέως καὶ
Δημοκρίτου καὶ Κίρκης . . .¹⁷⁶

THESALE THESALE first coming from Thessaly and discovering herbs and powers.
THESALE I have borne and I speak and I will come having an incantation, as of a lion,
and of the god Orpheus and of Democritus and Circe . . .

But in addition to providing evidence of popular taste, several of the spells may imply that RV was produced in a Latin-speaking area. A remedy for snakebite includes both an incantation (described as a *γητεία*) composed of pseudo-Latin and Semitic words, and a combination of Greek and Latin prayers:

κάρις, καριτά, ῥεμβουτώρ· σήλ. Ἐμμανουέλ. μβαρακή . . . μετὰ πάτερ ἡμῶν τριῶν καὶ
ἄβεμαριῶν γ'.¹⁷⁷

CARIS, CARITA, REMBUTOR, SEL. EMMANUEL. BARAKE . . . With three Our Fathers and
3 Ave Marias.

A formula to be used against epilepsy, entitled, in transliteration, *κόντρα μόρβουμ καδοῦκαμ* 'contra morbum caducam' (translated as *περὶ ἀδελφικοῦ*), consists of the Greek Trisagion and an appeal, in transliterated Latin, to the Sicilian martyrs Agatha and Lucy, the bishops of Rome Linus and Cletus, the Apostles Peter and Paul, Cyprian (probably the bishop of Carthage rather than the magician Cyprian of Antioch)—all of whom are commemorated in the Latin Mass—as well as the Magi and St Donatus:¹⁷⁸

Βελφάμουλ. φαμούλ. δεηνόμεν. Κάσπαρ. Μελχιώρ. Βαλτοσαράγ. ὁ θεός. ἰσχυρός. ἅγιος
ἀθάνατος. ὡσαννά. Σουσάννα. Ἀγαθή. Λατζία. Κοσμὲν ἔθ Δαμιᾶνος. Λίνα. Κλέτους.
ἐθ Τζιπριάνους. ντόμυε ντζιέζουμ. κρίστε. φίλους δέκει ἄλτισιμ. τουμ. λίμβερα. δε.
ιστομορβόμ. πε μερτι. μπεάτα. βίρτζινε. γλωριούζα. εθ πέρσου. φραγο. ἀποστολόρουμ.
Πέτρο ἐθ Παυῶλι. ἐθ σαντου Δονατι. ἄλφα ἐδῶμ. ἀμέν.

¹⁷⁵ V128, CHG II pp. 300–1. Also marked *στίχος* are the metrical captions of some illustrations, e.g. fo. 134^r; cf. Lauxtermann, *Byz. Poetry*, 187.

¹⁷⁶ R fo. 116^r.

¹⁷⁷ V204, CHG II p. 313.

¹⁷⁸ V104, CHG II pp. 297–8. Another invocation of the Magi against epilepsy in E. Stemplinger, *Sympathieglauben und Sympathiekuren in Altertum und Neuzeit* (Munich, 1919), 6, 83, and 89. See also F. Pradel, *Griechische und Süditalienische Gebete, Beschwörungen, und Rezepte des Mittelalters* (Giessen, 1907), 14–33, and 35. The transliterated passages are reminiscent of the 'medical Latin' in *Le Malade imaginaire*.

Belfamoul. Famoul. Dei nomen. Caspar. Melchior. Baltosarag. God. almighty. holy immortal. hosanna. Susanna. Agathe. Latzia. Kosmen eth Damianus. Lina. Cletus. eth Tziprianus. Domine Tziezoum. Christe. filous deki altissim. toum. libera. de. istomorbom. per merti. beata. virtzine. gloriouza. eth persou. frago. apostolorum. Petro eth Paouli. eth santou Donati. alpha edom. Amen.

Another set of spells invokes the aid of diverse saints for whom cows are to be sacrificed,¹⁷⁹ lamps lit, and genuflections performed for the protection of flocks and vines (Pl. 17).¹⁸⁰ The unusual names of these saints, Exouthenios, Eulampios, Photios, and Andronikos, identify them as the Ἀγιοι Ἀλαμᾶνοι. These 300 obscure personages are said to have been anchorites who fled the Holy Land after the Arab conquest (according to Leontios Makhairas) or the thirteenth-century reconquest (according to Étienne de Lusignan) and took refuge in Cyprus.¹⁸¹ There is even a reference to a Cypriot toponym in RV: ὁ ἅγιος Ἀλέξανδρος ὑπὸ τοῦ ἀψίου must be the same as St Alexander εἰς τὴν Ἀξύλου in Leontios Makhairas. Tryphon and Tychon, better-known Cypriots, also appear in the list.¹⁸² The remedies are attributed to Hierocles (!) in a note at the end of the list in R.

Did this set of texts enter RV on a loose leaf of parchment, or was an ancestor of the two manuscripts in Cyprus? The practice of veterinary medicine in medieval Cyprus is attested by the dedicatory inscription, probably of the thirteenth century, on a fresco of St George in the church of Panagia Phorbiotissa, the 'Virgin of the Herds', at Asinou.¹⁸³ The inscription names the donor twice, once in dodecasyllabic verse as ἱππων ἀκεστήρ εὐσεβῆς Νικηφόρος and a second time in prose as Νικηφόρος Καλληάς, that is καλλιγᾶς 'farrier'. Ἱππων ἀκεστήρ is reminiscent of the epigram on Sosandros in the Planudean Anthology, in which the term ἀκεστορία is applied to veterinary medicine.¹⁸⁴ The thirteenth-century Assizes of Cyprus contain a section περὶ τῶν ἱατρῶν τῶν κτηνῶν; a farrier is referred to as μαρετζᾶς ἥγουν

¹⁷⁹ Cf. the Εὐχὴ ἐπὶ θυσίας βοῶν in the Barberini Euchologion: S. Parenti and E. Velkovskaya, *L'eucologio Barberini gr. 336* (Rome, 1995), 230, pp. 253–4.

¹⁸⁰ R fo. 95^r. The slightly abbreviated text of V is in CHG II pp. 311–12.

¹⁸¹ H. Delehaye, 'Saints de Chypre', *AB* 26 (1907), 161–297; C. Sathas, *Vies des Saints Allemands de l'église de Chypre* Archives de l'Orient latin, II. 2 (1883; repr. Genoa, 1884), 405–26; Leontios Makhairas, *Recital concerning the Sweet Land of Cyprus entitled 'Chronicle'*, ed. and tr. R. M. Dawkins (Oxford, 1932), I.32, pp. 30–4. I am grateful to Prof. Mango for identifying the Ἀλαμᾶνοι.

¹⁸² Cf. J. Goar, *Euchologium sive rituale Graecorum* (Venice, 1730), 554–5: Εὐχὴ τοῦ ἁγίου μάρτυρος Τρύφωνος, λεγομένη εἰς κήπους καὶ ἀμπελώνας, καὶ εἰς χωράφια; H. Usener, *Der heilige Tychon* (Leipzig and Berlin, 1907).

¹⁸³ Hunting-dogs are depicted in the frescoes as well. S. Frigerio-Zeniou, 'Μονὴ τῶν Φορβίων ἃς Asinou de Chypre', in A. D. Lazarides, V. Barras, and T. Birchler (eds.), *ΒΟΥΚΟΛΕΙΑ: Mélanges offerts à Bertrand Bouvier* (Geneva, 1997), 191–9. Dr N. P. Ševčenko kindly drew this poem to my attention.

¹⁸⁴ *AP* XVI. 271, ed. H. Beckby, 446. See above, p. 12.

καλλικᾶς.¹⁸⁵ Further evidence comes from an inventory of the possessions of Guy d'Ibelin, Latin bishop of Limassol, made shortly after his death in 1367. In this inventory is mentioned a payment to 'un mareschau qui mega la bouche dou palefrain qui s'avoit brizé les dens, et pour oiniemens et son travail'.¹⁸⁶ Also included in the inventory is a list of books: no. 32 is described as *liber in papiro de madicina equorum (sic)*.¹⁸⁷ The other books, works on theology and philosophy including *logica Burlay* and a *liber phisicorum Burlay*, appear to have been in Latin; presumably the veterinary manual was as well. But one wonders whether it might have been related to RV, or to the Latin translation of Hierocles.

THE ILLUSTRATIONS OF RV

The illustrations of RV, western in style, provide more evidence that the Greek texts were copied in a Latin milieu. The RV recension is endowed with one of the most extensive cycles of illustrations present in a Greek medical text.¹⁸⁸ In the Paris and Leiden manuscripts, each excerpt is preceded by a single image, which usually takes up about half the page. (Two illustrations take up a full page in V, those depicting a kick from another horse and a fall from a cliff.) The relation of each image to the text it illustrates is not consistent. Some pictures depict the cause of a condition (an attack by a scorpion, consumption of chicken-droppings); in others, the symptoms (sprained neck, hair loss); and in others, the veterinarian's treatment (administering a drench or an enema). A portrait of Hierocles appears at the beginning of his second book. In R, he is seated at an empty lectern, and gestures in the manner of an orator (Pl. 16). Behind him is an architectural frame. In V, he is depicted as an evangelist: seated, wearing a halo, and gesturing with a rod toward an

¹⁸⁵ *Δοίξαι τοῦ Βασιλείου τῶν Ἱεροσολύμων καὶ τῆς Κύπρου*, ed. C. Sathas, *Μεσαιωνικὴ βιβλιοθήκη*, vol. 6 (Paris, 1877; repr. Athens, 1972), I. 226, pp. 180–1; *ibid.*, p. 181.

¹⁸⁶ J. Richard, 'Un évêque d'orient latin au XIV^e siècle, Guy d'Ibelin O.P., évêque de Limassol et l'inventaire de ses biens, 1367', *BCH* 74 (1950), 129. Guy had five horses and a number of mules; he also employed three falconers, Yany, Carsello, and Cochifos; as well as slaves named Dimitri le Turc and Dimitri le Grec.

¹⁸⁷ M.-H. Laurent and J. Richard, 'La Bibliothèque d'un évêque dominicain de Chypre en 1367', *Archivium fratrum praedicatorum*, 21 (1951), 447–54. I am grateful to Dr K. Ciggaar for this reference.

¹⁸⁸ Setting aside the pictures of plants, bottles of oil, snakes, etc. that accompany the texts of Dioscorides and Nicander, the only illustrated Greek medical manuals are the famous 10th-c. copy (Florence, Laur. Plut. 74.4) of Alexander of Citium's commentary on the Hippocratic treatise on replacing dislocated joints, and Soranus' treatise on bandaging in the same MS.

open book that floats before him.¹⁸⁹ In R, the classicizing author-portrait is in a very different style from the rest of the figures, who are depicted in distinctively western attire, consisting of particoloured tunics (Pl. 15) and hats with a turned-up brim.¹⁹⁰ In V, fantastical animals appear in the miniatures, occasionally administering treatments.¹⁹¹ These animals also testify to a western influence.

What is the origin of the illustrations in RV? Weitzmann (followed by Kádár and Degenhart and Schmitt) has argued that they are copied from a Late Antique model, presumably the original copy of Hierocles' text.¹⁹² This hypothesis presents a number of difficulties. First, Björck demonstrated that the text of RV is derived from the hippiatric compilation rather than from independently preserved copies of Hierocles, Apsyrtus, and Tiberius. Moreover, no reference to pictures is to be found in the text either of the *Epitome* or of Hierocles (who seems to have been content to illustrate his treatise only with figures of speech). In other illustrated Greek practical manuals, the pictures or diagrams are more closely integrated with the text.¹⁹³ S. Lazaris, who is at present writing a thesis on these illustrations, is of the opinion that the *Epitome*, being a practical text, was illustrated first, and provided a model for the illustration of the reconstitution of Hierocles.¹⁹⁴ But none of the eleven other copies of the *Epitome* contain illustrations, nor is there any reference to figures in the text. Moreover, it seems unlikely that the author-portrait attached to the reconstitution of Hierocles could have been derived

¹⁸⁹ Fo. 55^r.

¹⁹⁰ These elements of costume have been analysed by S. Lazaris, 'L'illustration des traités hippocratiques byzantins', 521–46, who concludes that they represent western influences on Byzantine miniaturists who were working from a Greek model.

¹⁹¹ A thorough description of the pictures is given by Doyen-Higuet, 'Contribution à l'étude des manuscrits illustrés'. On the 'drôleries' see B. Degenhart and A. Schmitt, *Corpus der italienischen Zeichnungen 1300–1450*, vol. II.2 (Berlin, 1980), 407; also cf. L. Brunori Cianti, 'Testo e immagine nei codici di mascalcia italiani dal XIII al XV secolo', *Rivista di storia della miniatura*, 1–2 (1996–7) = M. Ceccanti (ed.) *Atti del IV Congresso di Storia della Miniatura 'Il codice miniato laico: rapporto tra testo e immagine'*, 249–55.

¹⁹² Weitzmann, *Ancient Book Illumination*, 22–3; 'Macedonian Renaissance', 194–5.

¹⁹³ For example, in Apollodorus' *Poliorectica*, the illustrations are mentioned in the preface and referred to throughout the treatises: *σχήματα πολλὰ καὶ ποικίλα διέγραφα . . . τὸ σχῆμα ὑπόκειται, ὑπογράφεται, καταγράφεται*. C. Wescher, *Poliorectique des grecs* (Paris, 1867), 137, 158–60, 271, etc. The same is true in the commentary by Apollonius of Citium on the Hippocratic treatise on dislocations in Laur. Plut. 74. 4: *τοὺς δὲ ἐξῆς τρόπους τῶν ἐμβόλων δι' ὑπομνημάτων, ζωγραφικῆς τε σκιαγραφίας τῶν κατὰ μέρος ἐξαρθρήσεων παραγωγῆς τε τῶν ἄρθρων ὀφθαλμοφανῶς τὴν θέαν αὐτῶν παρασχυσόμεθα σοι*, ed. J. Kollesch and L. Kudlien, *Corpus medicorum graecorum*, 11.1.1 (Berlin, 1965), 14. In the polioretic manual of 'Heron of Byzantium', the medieval editor altered the illustrations of his antique sources, but he mentions this fact, and his illustrations are both labelled and related to the instructions in the text. D. F. Sullivan, *Siegecraft: Two Tenth-Century Instructional Manuals by 'Heron of Byzantium'*, (Washington, DC, 2000), p. 26 and Sullivan's comments, pp. 8 ff.

¹⁹⁴ 'Le Parisinus gr. 2244', 163–7.

from the *Epitome*, an anonymous text which goes under the names of not one but two ancient authorities.

A consideration that has been consistently overlooked is that the pictures are a uniting feature of the otherwise incongruous juxtaposition of Hierocles with the *Epitome*. Since neither of the two texts appears to have been illustrated in its original form, it seems probable that the pictures were introduced when the two texts were put together to form an edition. Yet the third section of RV, whose composition from the *disiecta membra* of A and B seems to hold clues about the formation of the edition, is unillustrated.

Were the pictures created on the basis of the text, or were they borrowed from another illustrated hippiatric treatise? Their correspondence to the text in many cases is close enough to make one imagine that they were based upon reading of the excerpts: for example, the swimming horse depicted in R fo. 5^v illustrates one part of Hierocles' instructions for treating sore withers and shoulders, *καταντλείσθω ὕδατι θερμῷ καὶ ῥοιζέσθω*. (Pl. 14)¹⁹⁵ But there are also cases in which the link between text and image is tenuous at best.¹⁹⁶ A notable lack of detail—the horses are shown without halters, the horse-doctor is often shown simply holding a horn in the nostril of the horse without pouring in a drench (Pl. 15)—seems to imply that there is some distance between R and V and the archetype of the illustrations.¹⁹⁷

Given their distinctly western style, and the connections in the text of RV to Sicily and Cyprus, it is possible that the manuscripts are copies—executed in the local idiom—of an illustrated Greek manuscript. The best-known Greek text with illustrations in western style is the Madrid Scylitzes; it has been suggested that the illustrations of the text have their origin in a presentation copy made for an emperor at Constantinople, a copy of which was sent to Sicily, where in turn it was copied by artists of the Norman court in the hybrid local style.¹⁹⁸

It may be more likely, though, that the illustrations of the *Hippiatrica* were introduced in the West. Whereas R and V have no relatives among Greek medical manuscripts, there is a large family of illustrated Italian manuscripts of veterinary texts.¹⁹⁹ Particularly worthy of note is Berlin, Kupferstichkabinett 78 C 15, attributed by Degenhart and Schmitt to Naples, c.1290, and containing an Italian translation of Giordano Ruffo's Latin text with a full cycle of illustrations. The illustrations of the Berlin manuscript are more

¹⁹⁵ B26.17, *CHGI* p. 130; cf. instructions for *λούειν τῇ θαλάττῃ*, M909 = B77.2, *CHGI* p. 293.

¹⁹⁶ As has been noted by Doyen-Higuet, 'Contribution à l'étude des manuscrits illustrés', 100.

¹⁹⁷ One is reminded of Pliny's observation about the practice of illustrating technical treatises: *ratione blandissima, sed qua nihil paene aliud quam difficultas rei intellegatur*, *NH* XXV.8 (a reference to Crateuas).

¹⁹⁸ N. G. Wilson, 'The Madrid Scylitzes', *Scrittura e Civiltà*, 2 (1978), 209–19.

¹⁹⁹ A number of these are described and illustrated in L. Cianti and L. Brunori-Cianti, *La pratica della mascalcia nei codici medievali di Mascalcia* (Bologna, 1993).

precise and informative than are the rather crude illustrations of R and V: they depict the restraint of the horse during medical treatment, with attention to tack and to the instruments of the horse-doctor. These illustrations, placed in the lower margin of each page, are related in style to those in a manuscript of the *De arte venandi cum avibus* of Frederick II.²⁰⁰ It is also possible that, in polyglot Sicily, models could have been furnished by an illustrated Arab treatise on veterinary medicine such as that of Aḥmad ibn al-Ḥassan ibn al-Ahnaf, of which three illustrated thirteenth-century copies are known,²⁰¹ or on horsemanship (*furūsiyya*), of which there are many illustrated examples.²⁰² That the illustrators of Arabic hippiatric texts had Greek models before them is taken for granted by those who have examined the miniatures.²⁰³ It may be relevant, however, that analysis of an extensive cycle of miniatures accompanying an Arabic translation of Dioscorides shows that illustrations of Arabic literary texts furnished more immediate models for the copious—but often purely decorative—pictures in the medical manuscript.²⁰⁴

The evidence of the illustrated Italian translation may shed light on the enigmatic pairing of Hierocles and the *Epitome*. The text exists in three manuscripts of the fifteenth century: New York, Pierpont Morgan Library 735, London, Additional 15097,²⁰⁵ and Modena a. J. 3. 13 (ital. 464). The illustrations have been analysed by B. Degenhart and A. Schmitt, who conclude that the New York and London manuscripts are closely related to one another and to the illustrated manuscripts of Giordano Ruffo; the Modena manuscript has pen-and-ink drawings in a different style.²⁰⁶

The contents of the Italian manuscripts consist of the following texts:

1. A translation of the treatise of Giordano Ruffo into Italian made by the Roman Lorenzo Rusio,²⁰⁷ but attributed in the manuscript to a certain Boniface of Calabria.

²⁰⁰ Degenhart and Schmitt, *Corpus der italienischen Zeichnungen*, no. 670, pp. 216 ff.; W. F. Volbach, 'Le miniature del codice Vatic. Pal. lat. 1071 "De arte venandi cum avibus"', *Rendiconti della Pontificia Accademia Romana di Archeologia*, 3rd ser. 13 (1937), 145–75.

²⁰¹ They are Cairo, National Library, cod. med. VIII; Istanbul, Topkapı Sarayı Ahmet III cod. 2115; and Istanbul, Süleymaniye Camii, Fatih 3609; all derived from a Greek archetype according to E. Grube, 'The *Hippiatrica Arabica Illustrata*: Three 13th-Century Manuscripts and Related Material', in A. U. Pope and P. Ackerman (eds.), *A Survey of Persian Art, from Prehistoric Times to the Present* (Oxford, 1960), 3138–55.

²⁰² S. al Sarraf, 'Évolution du concept de furusiyya et de sa littérature chez les Abbassides et les Mamlouks', *Chevaux et cavaliers arabes dans les arts d'Orient et d'Occident* (Paris, 2002), 69–70.

²⁰³ Grube, 'The *Hippiatrica Arabica Illustrata*', and H. Buchthal, 'Early Islamic Miniatures from Baghdad', *Journal of the Walters Art Gallery*, 5 (1942), 19–39.

²⁰⁴ Buchthal, 'Early Islamic Miniatures', 20 ff.

²⁰⁵ London, Add. 15098 is a later copy of 15097.

²⁰⁶ Degenhart and Schmitt, *Corpus der italienischen Zeichnungen*, 392 ff.

²⁰⁷ On the relation between these texts, G. de Gregorio, 'Notizia di un trattato di mascalcia in dialetto siciliano del secolo XIV', *Romania*, 33 (1904), 368–86.

2. A liturgical calendar containing references to the feast-days of saints associated with Sicily, including Cataldo and Agatha.
3. An Italian translation of the two books of Hierocles plus the *Epitome*, presented as a single work and numbered consecutively in 152 chapters. The contents and order of the chapters are the same as in RV, including the passages from Apsyrtus, *περὶ σκορπίου, περὶ φθορᾶς τριχῶν*. The chapters are divided at the same point into two books; however, there is no trace of Hierocles' prooimia. The portrait of Hierocles that figures in RV is likewise absent from the Italian manuscripts. Instead, they begin with eight full-page illustrations, including a dedicatory portrait of an anonymous horseman.

A translator's note provides ambiguous evidence. The note is placed after the first treatise, that is the Ruffo–Rusio text, and seems to refer to it:

Finito ene lo libro de missere Bonifacio et translato de grammatica e de lettera greca in latina per frate mastro Antonio de Pera mastro in tologia in sciencia greca et altre sciencie de l'ordine deli predicatori . . . Questo missere Bonifacio fo medico de utriusque artis scilicet de cerugia e de fisica valentissimo et sufficientissimo philosopho et a nigremantisco et archemista chiamato Mastro Bonifacio e fo gentilissimo e rechissimo homo de l'alta greca de Calabria . . .

E cossi lo dicto mastro frate Antonio ave translato questo presentito libro de quella profonda e chiusa sciencia grammaticha grecha in volgata lettera e grammaticha et in lengua ytalica et latina.²⁰⁸

Finished is the book of lord Boniface, and translated from Greek grammar and letters into Latin by the monk, master Antonio da Pera of the Order of Preachers, master in theology, in the knowledge of Greek, and other sciences. This lord Boniface was a doctor of both arts, namely surgery and physic, a mighty and capable philosopher, and as a necromancer and alchemist called Master Boniface; he was a most gentle and rich man of the greater Greece of Calabria.

And thus the said monk, master Antonio, translated the present book from that profound and obscure science of Greek grammar into the common alphabet and grammar and into the Italic and Latin tongue.

The translator, Antonio da Pera, was evidently a Dominican friar; his name might suggest that he was part of the Genoese community at Galata, an origin that would explain his knowledge of Greek. Boniface of Calabria is otherwise unknown. Although da Pera states in his note that Charles of Anjou bestowed upon Boniface the fief of Gerace, there is no corroborating evidence in the property registers of the area.²⁰⁹ The manner in which da Pera refers to

²⁰⁸ Morgan Lib. M735, fo. 48^r.

²⁰⁹ F. Sabatini, 'Bonifacio di Calabria', *Dizionario Biografico degli Italiani*, 12 (Rome, 1970), 118; Degenhart and Schmitt, *Corpus der italienischen Zeichnungen*, 399. One awaits with eagerness the article on this question promised by K.-D. Fischer, 'A horse a horse!', 136.

Boniface does not suggest personal acquaintance. According to Degenhart and Schmitt, the 'treatise of Boniface' was a Greek translation of Lorenzo Rusio's adaptation of Giordano Ruffo, which da Pera then translated into Italian.²¹⁰ In order to avoid the multiplication beyond necessity of translations, one might interpret the translator's note as a reference to the RV texts,²¹¹ and imagine that Boniface was perhaps simply the possessor of a collection of works on veterinary medicine in different languages.

The Greek text from which the translation was made was evidently related to RV, with its combination of Hierocles and the *Epitome*. It is not difficult to understand why the translator eliminated Hierocles' prooimia, for these are hopelessly distorted by misspellings in RV (Pl. 18). The same goes for the omission of the texts in the third part of RV. There are a number of interlinear and marginal notes in Italian in V which might be related to the process of translation; however, Doyen-Higuet has concluded that they have no obvious connection to the Italian text.²¹² The content and style of the illustrations of the Italian version confirm the link with the illustrated Greek manuscripts. Some of the pictures resemble one another closely (Pls. 14 and 24); others are mirror-images, which might result from the method of copying. The Italian manuscripts show more detail in the illustrations than do R and V: for example the jugs containing medicines, which rarely appear in the Greek manuscripts, are consistently depicted. Perhaps the archetype of R and V had its origin in a collection of Greek texts assembled for translation.²¹³ One may note that in the Italian translation, without the prooimia of Hierocles, and with the addition of the illustrations, the reconstitution and the *Epitome* are less incongruously paired.

²¹⁰ *Corpus der italienischen Zeichnungen*, p. 399, and the diagram p. 405.

²¹¹ As has been suggested by S. Lazaris, 'Contribution à l'étude de l'hippiatrie grecque et de sa transmission à l'Occident', 152. See also Cianti and Brunori Cianti, *La pratica della mascalcia*, 95–6.

²¹² Cf. Doyen-Higuet, 'Contribution à l'étude des manuscrits illustrés d'hippiatrie grecque', 80 n. 28.

²¹³ Greek manuscripts used for translation were on occasion also copied in Greek; cf. G. Cavallo, 'La trasmissione scritta della cultura greca antica in Calabria e in Sicilia tra i secoli x–xv', *Scrittura e Civiltà*, 4 (1980), 224: a Greek manuscript (Cambridge, University Library II.5.44) of Aristotle's *Magna moralia*, a text translated by Bartholomew of Messina, has a colophon stating that the copy was made at the monastery of S. Salvatore in Messina in 1279. Another Greek text translated by Bartholomew, the commentary by John of Alexandria on the Hippocratic *Epidemics* book VI, was excerpted and copied into the margins of Vat. gr. 300, a manuscript containing a Greek translation of the Zād al-musāfir of Ibn al-Jazzar, written in the same hand as the Madrid Skylitzes, and thus presumably produced in the circle of the Sicilian court. Cf. also P. Canart, 'Le livre grec en Italie méridionale sous les règnes normands et souabes: aspects matériels et sociaux', *Scrittura e Civiltà*, 2 (1978), 149; A. Grabar, *Les manuscrits grecs enluminés de provenance italienne* (Paris, 1972), 81.

Conclusions

A NUMBER of tendencies may be discerned in the evolution of what we may call the major recensions of the *Hippiatrica*, M, B, C, and L. The first is in the presentation of the excerpts. In M, the identities of the authors are distinct and prominent: indeed, the text is arranged according to their names. Excerpts from the source treatises are transcribed, as far as one can tell, without alteration, and no anonymous excerpts figure in the compilation. In B, the reordering of the compilation gives more weight to the subjects of the excerpts. Many excerpts have lost their identifying lemmata, and anonymous sources are also introduced. In C, the individual source-treatises are no longer treated as sovereign entities, and excerpts from different authors are run together without scruple. These phenomena are not peculiar to the transmission of the hippiatric texts: very similar trends have been identified in the presentation of the individual sayings of the fathers—another type of short didactic text—in successive recensions of the *Apophthegmata Patrum*.¹ The later recensions of the *Hippiatrica* show a progressive loss of interest in the identities of the Late Antique authors, and an introduction, at the same time, of exotic and spurious authorities, reflecting the tastes of the age. The phenomenon of the sage, philosopher, or saint who collaborates or competes in the domain of the physician has also been observed in accounts of healing in hagiographical texts.² And the same cast of characters whose names appear in L—sophists, sages, Apollonius of Tyana—appears in the *Parastaseis syntomoi chronikai* and the *Patria* of Constantinople (texts of the eighth and tenth century, respectively).³

¹ On the individual sayings, J.-C. Guy, 'Note sur l'évolution du genre apophthegmatique', *Revue d'ascétique et de mystique*, 32 (1956), 63–8; on the organization of the compilations, idem, *Recherches sur la tradition grecque des Apophthegmata Patrum* (Brussels, 1962) and *Les Apophthegmes des Pères* (Paris, 1993).

² G. Dagron, 'Le saint, le savant, l'astrologue', in *Hagiographie, cultures, et sociétés, IVe–XIIIe siècles* (Paris, 1981), 143–56.

³ Idem, *Constantinople imaginaire*, 103 ff. on Apollonius; on the other 'philosophers', see pp. 123–5.

At the same time, these recensions of the compilation provide an illustration of what has been called the 'tyranny of high style'⁴ influencing even the transmission of technical texts. The editor of M had little tolerance for non-technical material, and a particularly dim view of Hierocles' elegant adaptation of Apsyrus. In B, the greater amount of Hierocles' text that is present, and the juxtaposition of Hierocles with Apsyrus, are evidence of a different sensibility, confirmed by the stylistic reworking of the entire text of the compilation. Hierocles' classicizing prooimia are literary spolia reused as ornaments, in the antiquarian spirit of the Middle Byzantine period.⁵ In L, preference is accorded to Hierocles over Apsyrus; the reconstitution of Hierocles in RV represents the logical conclusion of this process. Even in C, the addition of excerpts from Julius Africanus—with little or no reworking—reveals a certain taste for decorative prose. Yet the Cambridge manuscript, copied on diverse and partly reused materials, and laboriously adapted for reference by the addition of interlinear glosses⁶ and leather tabs, is a reminder that practical value is a factor in the transmission of technical texts as well. Whereas the evolution of the major recensions of the compilation shows that the texts were adapted to conform to literary tastes, the existence of the vernacular *Epitome*, with its extensive manuscript tradition and fluid text, shows, on a different level, how the texts were drastically altered in order to remain useful in the stables.

The identification of a textual transmission on two levels leads naturally to the question of how much the Late Antique veterinary compilation was actually used. It is difficult to estimate the extent to which veterinary science was learned and practised with reference to texts, rather than through hands-on experience; Varro's recommendation that the chief herdsman have at hand a list of veterinary treatments from Mago's work on agriculture has repeatedly been cited as evidence in this context.⁷ Could the average horse-doctor read and write? The low status conventionally attributed to the horse-doctor in Late Antiquity⁸

⁴ I. Ševčenko, 'Levels of Style in Byzantine Prose', *JÖB* 31 (1981), 298 ff.

⁵ One may see a parallel in the reuse, in the 10th c., of antique sculpture on the façade of the Palace of the Bucoleon and the Golden Gate: C. Mango, 'Ancient Spolia in the Great Palace of Constantinople', in C. Moss and K. Kiefer (eds.), *Byzantine East, Latin West: Art Historical Studies in Honor of Kurt Weitzmann* (Princeton, 1995), 645–57; idem, 'The Triumphal Way of Constantinople and the Golden Gate', *DOP* 54 (2000), 181–6.

⁶ M. R. James attributes these to the 15th c.: *The Western Manuscripts in the Library of Emmanuel College*, p. 149.

⁷ Varro, *RR* II.5.18 etc. (cited above, p. 88); cf. W. V. Harris, *Ancient Literacy* (Cambridge, Mass., 1989), 256; Fischer, 'Ancient Veterinary Medicine', 192; Adams, *Pelagonius*, 74–5.

⁸ V. Nutton, 'Menecrates of Sosandra, Doctor or Vet?', *ZPE* 22 (1976), 93–6; cf. also Adams, 'Pelagonius and Columella'; Fischer, 'Ancient Veterinary Medicine', 193. In the late 6th c., Gregory the Great portrayed the devil in the manifestation of a horse-doctor with his tools of drenching-horn and hobbles: *Vita S. Benedicti (Dialogi de vita et miraculis patrum Italicorum)*, II) *PL* 66, col. 187.

is belied by the high level of education of the Greek hippiatric authors Anato-lius, Apsyrthus, Theomnestus, and Hierocles. The picture is even less clear after Late Antiquity, because of the paucity of references to horse-doctors and to the practice of veterinary medicine. That no new veterinary manuals appear to have been composed in Greek after Late Antiquity may speak as much for a lack of demand for textbooks as for the success of the hippiatric compilation. One may point to the decline of the hippodrome, once a vast equine industry, as a factor;⁹ the scale of the public post, another institution that required horse-doctors, was also reduced as the boundaries of the empire contracted; a general decline of literacy no doubt played a role as well.

What was the status of horse-medicine in the Middle Byzantine period? At the Council held at Constantinople in 870, the Patriarch Ignatius contemptuously dismisses those who had brought false witness against him as ‘needle-makers, stablehands, horse-doctors, and the like’ (βελονάδες, σταυλισιανοί, ἰπποῖατροι καὶ ἕτεροι ὅμοιοι).¹⁰ Nevertheless, that the voluminous *Hippiatrica* was transliterated into minuscule around this time shows that horse-medicine was considered interesting: the M recension indicates that it was also considered useful—and indeed the M manuscript bears annotations to that effect. The revision of the compilation in the tenth century took place under the auspices of Constantine VII Porphyrogenitus within the context of an imperial renewal, including the re-editing of old compilations and the assembling of new ones on their model. The view of horse-medicine as a sordid discipline is at odds with the opulence of the B manuscript and the methods of the B recension. These may simply represent symbolic imperial interest in the sciences: one wonders how effective the new edition of the *Hippiatrica* could possibly have been in reviving veterinary medicine by making texts accessible to practitioners. Whereas Late Antique practical manuals of military engineering were updated in the tenth century with a certain amount of reference to the needs of medieval users, such as explanation of obsolete terminology,¹¹ the *Hippiatrica* was given a stylistic polishing, as though it were a literary text like the *Lives* of saints subjected to a similar reworking at that time. This upgrading of style would seem counter-productive: one might have expected a simplification if the text were really intended for practical use. Moreover, there is no attempt to incorporate into the texts innovations in horse-care, such as the use of the iron horseshoe;¹² or in pharmacology, such

⁹ C. Mango, ‘Daily Life in Byzantium’, *JÖB* 31/1 (1981), 344–50.

¹⁰ J. D. Mansi, *Sacrorum Conciliorum nova et amplissima collectio* XVI (Venice, 1771), 395

¹¹ See D. F. Sullivan, *Siegecraft: Two Tenth-Century Instructional Manuals by ‘Heron of Byzantium’*, 1–14; also cf. *De thematibus*, ed. Pertusi, proem., p. 59.

¹² See the treatise on imperial expeditions appended to *De Cer.*, ed. Haldon, p. 102; Ibn Akhī Hizām (9th c.), quoted in Ibn al-‘Awwām, XXXII.20, p. 908. On horse-shoes in the medieval

as the *materia medica* of eastern origin known in the tenth century to Ibn Juljul,¹³ and described in the eleventh by Symeon Seth.¹⁴ (The *Geoponica*, similarly, does not reflect innovations in agriculture which had taken place in the Muslim world, such as the introduction of the aubergine.)¹⁵ Many other products of the patronage of Constantine VII were compilations made with practical intent but antiquarian in character, which do not seem to have circulated far outside of the imperial scriptorium: one may name for example the *Excerpta*, *De cerimoniis*, the Bestiary, and the collections of military tacticians.¹⁶ One might suspect that the B recension of the *Hippiatrica*, in the Middle Ages, had a similarly limited circulation.

Certainly the practice of veterinary medicine continued; but it is impossible to know the extent to which veterinary practitioners used the texts we have been considering. The treatise on imperial military expeditions appended to the *Book of Ceremonies* refers to the branding and castration of cavalry-horses; to wine and vinegar being brought along on campaign for the treatment of the horses; to containers with all sorts of remedies for men and beasts; but the list of books—mainly practical manuals—to be packed for reference in the field contains no mention of hippiatric texts.¹⁷ The obituary notice of Odo of Stigand the younger (1036–62), a Norman knight, recounts how he went to the East, learned Greek, served the emperors Isaac Comnenus and Constantine Ducas, and ‘became an expert in the healing of men, horses and birds’.¹⁸ Horses and falcons, of course, figured prominently among courtly preoccupations in this period from Sicily to the Levant. But did Odo acquire his skill from experience or from books? We are reduced to pondering the cliché of *πείρα* vs. *λόγος*.

No doubt there were manuscripts of the *Hippiatrica* used by Byzantine horse-doctors that have not survived. But the evidence of those copies which

West, see J. Clark (ed.), *The Medieval Horse and its Equipment c. 1150–c. 1450* (Medieval Finds from Excavations in London, 5; London, 1995), 75–123. Shoeing is described in Giordano Ruffo, ch. 2, ed. Molin, 9–10.

¹³ A. Dietrich, *Die Ergänzung Ibn Ġulġul's zur Materia medica des Dioskurides* (Abhandlungen der Akad. der Wiss. in Göttingen, *Philol.-Hist. Kl.*, 202; Göttingen, 1993).

¹⁴ *De alimentorum facultatibus*, ed. B. Langkavel (Leipzig, 1868); G. Harig, ‘Von den arabischen Quellen des Symeon Seths’, *Medizinhistorisches Journal*, 2 (1967), 248–68.

¹⁵ Cf. R. H. Rodgers, ‘*Κηποποιΐα*: Garden Making and Garden Culture in the *Geoponica*’, 171; M. Watson, *Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques 700–1100* (Cambridge, 1983).

¹⁶ Irigoin, ‘Pour une étude des centres de copie byzantins’, 179.

¹⁷ *De cer.*, pp. 459–60, 468; list of books p. 467.

¹⁸ ‘Lingue grece ... facundiam habens, hominibus et equis atque avibus egris medicaminibus prodesse potuit’, *Chronicle of Sainte-Barbe-en-Auge*, 57–8: see K. Ciggaar, ‘Byzantine Marginalia to the Norman Conquest’, *Anglo-Norman Studies*, 9 (1987), 43–63. I thank Dr V. von Falkenhausen for this reference.

do survive confirms that the Late Antique texts were difficult to understand, and required a certain amount of adaptation in order to be of practical value.¹⁹ Yet high style continued to be valued too: it is telling that the fourteenth-century manuscripts of the RV recension contain the most classicizing hippiatric treatise, that of Hierocles, copied together with the *Epitome* and a glossary of unfamiliar or obsolete medical terms.

¹⁹ We may note that the *Hippiatrica* was read by medical writers: a recipe for the *Ambla mula* ointment is included in the 14th-c. *Dynameron* of Nicholas Myrepsus, 34.10. In the 15th c., Demetrius Pepagomenos seems to have been familiar with the *Hippiatrica*, since he refers in the preface of his *Hierakosophion* to works on horse-medicine, and gives in the text a recipe for a 'hippiatric ointment', ed. Hercher, p. 499; *CHG* II p. 337.

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